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# Model MILITARY INTERNATIONAL

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# THE KING OF 1946

**INSIDE:** Meng 1:35 T-10M ■ Italeri 1:35 Lince ■ Tamiya 1:35 M4A3E8 Easy Eight ■ Zvezda GAZ-M1 ■ Tamiya 1:48 Horsch ■ and more...

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## TAMIYA FORTHCOMING RELEASES: 1:35 SU-76, 1:35 U.S. TANK CREW AND 1:48 HUMBER MK.IV ARMoured CAR

**T**amiya has been busy preparing new releases for the end of 2015 and early 2016.

Tamiya has announced an all-new 1:35 scale Su-76 Soviet self-propelled gun for release around February 2016.

In many ways, Soviet Russia was under-prepared for the Axis invasion of June 1941. One telling deficiency was in self-propelled guns that could take on German armour. This remained unaddressed right through to autumn 1942, when the blueprints for the SU-76 self-propelled gun were finally laid down. The SU-76 eventually became the SU-76M, a vehicle that would become the second-most produced Russian armoured vehicle in WWII after the T-34. The SU-76M used a ZiS-3 76.2mm gun variant, and could defeat most types of German tank.

It featured a hair-raising open-topped fighting compartment that, while it allowed better communication and visibility on the battlefield, left its crew poorly protected from shrapnel and the harsh climate. Nonetheless, it proved excellent on poor surfaces, where - unlike tanks - it could keep up with infantry in a vital support role.

Here is what Tamiya says about this forthcoming release:

- This is a newly-tooled 1:35 scale plastic model assembly kit. Length: 146mm, width: 78mm.
- The distinctive SU-76M form with open fighting compartment is accurately captured.
- Interior details such as the fighting compartment bulkhead and internal armor are authentically depicted.
- 76.2mm gun features parts recreating recoil mechanism, recuperator, operation handles and more, for a
- Highly detailed finish.
- Track top sections are constructed using the aid of a kit-included jig.
- Parts are included to recreate 2 shell types.
- Includes 2 marking options and 3 figures to up the realism.

The British vehicle contingent in Tamiya's 1:48 Military Miniature Series is also about to be boosted with the release of a Humber Mk.IV 7ton armoured car. Across all of its marques, this was one of the most prolifically produced vehicles during WWII with 3,600 examples seeing service.

With a top speed of 72km/h and a 400km range, its mobility and versatility were highly welcome to British and Commonwealth forces, who employed it for recon work and even as a command car.

The Humber Mk.IV was upgunned with a

37mm gun, and had space for a crew of 3. It saw extensive service in both North Africa and the European theater.

Here is what Tamiya has to say about this forthcoming release:

- Length: 95mm, width: 48mm.
- The model concisely recreates the form of the 7 ton armoured car with its distinctive sloped armour, plus a realistic depiction of the 4WD suspension and underside.
- Mk.IV specific features such as the 37mm gun and right side-mounted spare wheel are captured with aplomb.
- Turret commander's hatch can be depicted in open or closed position.
- The kit includes a commander torso figure, plus decals to depict a Polish Armoured Division vehicle.

The model is due for release in early 2016.

Tamiya has also released a set of five 1:35 scale U.S. Army tank crew figures to accompany their brand new M4A3E8 Easy Eight Sherman, but they will also be suitable for a myriad of other WWII U.S. vehicles too. We will have more information about all these exciting releases in the next issue.

Thanks to Tamiya for the information and the images [www.tamiya.com](http://www.tamiya.com)



## Tiger: Modern Study of Fgst. NR. 250031

The Research Squad's latest title, "Tiger: Modern Study of Fgst. NR. 250031", a complete photo study of the Aberdeen 712 Tiger tank, is now available.

This includes a full exterior walk-around, a complete documentation of the interior and also a detailed study of the engine compartment and engine.

This new title may be ordered now from ADH Books <http://adhpublishing.com/shop/store/products/tiger-a-modern-study-of-fgst-nr-250031/>

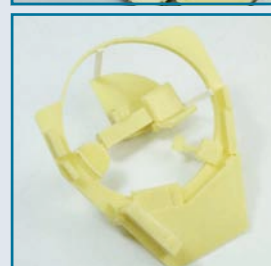
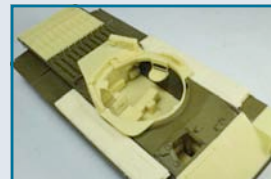


## INSIDE THE ARMOUR LAST RELEASE - CENTURION MK.I CONVERSION

Inside the Armour has announced its last ever kit release; Item No. 35128, a 1:35 scale Centurion Mk.I Conversion (for AFV Club), designed to fit any AFV Club Centurion. This full conversion turns your Cent into a Mk.I production tank. It includes turned 76mm barrel and partial interior. This conversion is strictly limited to 30, and will not be recast.

As of 31 December, Inside the Armour will cease sale of all kits and lines carrier. However they will remain as a publisher and will be open for customer service / parts replacement on kits bought before the end of December.

Thanks to Inside the Armour for the information, images and for the years of interesting and innovative releases [www.insidethearmour.com](http://www.insidethearmour.com)



## 2016 PLYMOUTH PREMIER MODEL SHOW

The 2016 Plymouth show will be held on Saturday 2nd April 2016 at the usual venue, Plymouth Guildhall between 10.00am - 4.00pm.

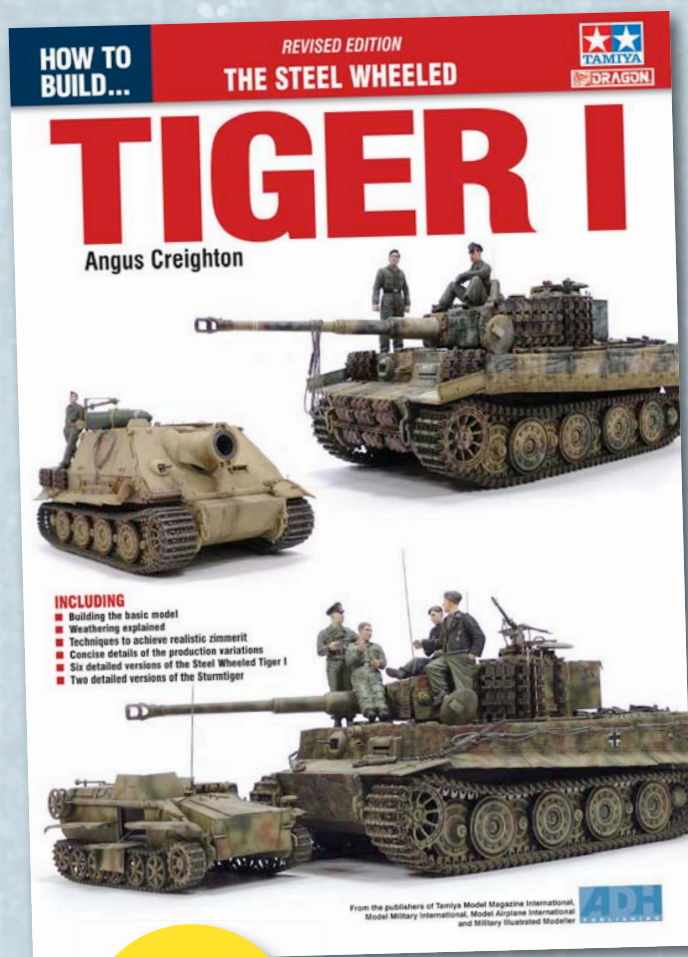
A number of clubs and traders have already confirmed attendance and it is anticipated that this will be their biggest show to date.

Disabled access is available.

Further details can be obtained from Ian Chanter, 01752 212676 or email on [ian.chanter@blueyonder.co.uk](mailto:ian.chanter@blueyonder.co.uk)



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# The German E-Types or Entwicklungsfahrzeuge

The German E-Types appeal to many modellers' imaginations, spurred on by the release of these types of models, mainly by Trumpeter. In contrast to the ubiquitous Tigers, Panthers, Panzer IVs, etc. these designs never saw mass production, remaining nothing more than paper panzers in the truest sense of the word, except for the E-100 which saw its chassis nearly finished by the end of the war. Because of their paper panzer status and a very limited amount of official and verified information the E-Types remain quite mysterious, leading to some misconceptions due to misinterpreted information. In this article, John Osselaer attempts to give an overview of fact and fiction.

## THE ORIGINS OF THE E-TYPES

If we want to discover the origins of the E-Types, we have to take a journey back in time. Before the Second World War, the German army had a very rigid system for the development of weapons of any type. Requests for new weapons had to be sent to an inspectorate related to the type of weapon. For armour, this was Waffen Inspectorate 6. Unrealistic ideas and requests were filtered out, but valuable ideas were elaborated and performance specifications for the weapon in question drawn up.

After this phase the project moved on to the branch ordnance department who were charged with drafting design specifications and contracting private companies to hand in proposals. Conceptual

designs were evaluated by the ordnance department, for panzers this was Waffen Prüfen 6 (Wa Prü 6). If satisfactory, the next steps for the development of prototypes were taken. When a prototype passed the necessary tests, a decision to mass produce the vehicle could be taken.

This system functioned well until the start of the war in 1939, and then it started breaking down rapidly. Waffen Prüfen 6 started launching designs themselves without the commission by Inspectorate 6. It didn't take long for companies like Porsche, Krupp and Daimler-Benz to come up with their own designs and proposals. Basically, everybody was courting everybody to get weapons contracts. Many senseless designs

were drawn up and massive resources were lost in pursuing non-practical designs.

The plethora of German armour models in World War II, with all their versions and particularities, has created a massive bulk of vehicles to explore. For historians and modellers, this represents a wealth of topics to choose from. However, the people manning the field repair services were far less enthusiastic about this wide range of vehicles. As you can imagine, it is far more challenging having to work on a multitude of different vehicles, let alone manage a chain of replacement parts! Perpetually encountering enemy vehicles of the same kind such as the T-34 and the Sherman tank made the German military

realise that standardising their armour inventory would greatly aid the war effort. Other observations and experiences from the front lines also got consolidated and eventually led to the launch of a new programme.

Another turning point is December 21, 1943; when Ferdinand Porsche was replaced by Gerd Stielers von Heydekampf of Henschel & Sohn at the head of the panzer commission. One of the first things he did was make an inventory of everything that was being produced. On this basis he started the rationalisation of the different designs. The goal was to have only a limited number of designs to streamline production.



## LAUNCH AND PRINCIPLES OF THE E-SERIES PROGRAMME

The E-Series programme was conceived as early as May 1942 by Oberbaurat Heinrich Ernst Kniepkamp, head of Waffen Prüfen 6. The programme was authorised in April 1943. As mentioned above, a number of valuable lessons were drawn from frontline experiences and set out as principles for the E-Series:

1. A standardisation of all panzers in four weight categories was demanded. The vehicle's denomination resulted from this weight classification, with the E standing for Entwicklungsfahrzeug and the number for the weight class:

- a. E 10 (10-15 tons);
- b. E 25 (25-30 tons);
- c. E 50 (about 50 tons) E 75 (75-80 tons);
- d. E 100 (130-140 tons).

2. A very strong front plate was required to stop the penetration of high-velocity rounds. This implied shifting as much weight as possible to the back of the vehicle

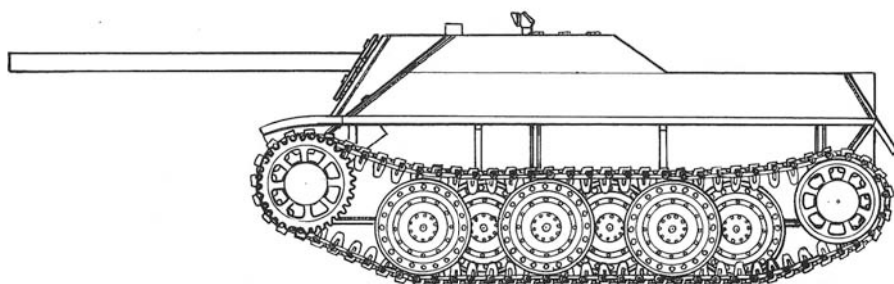
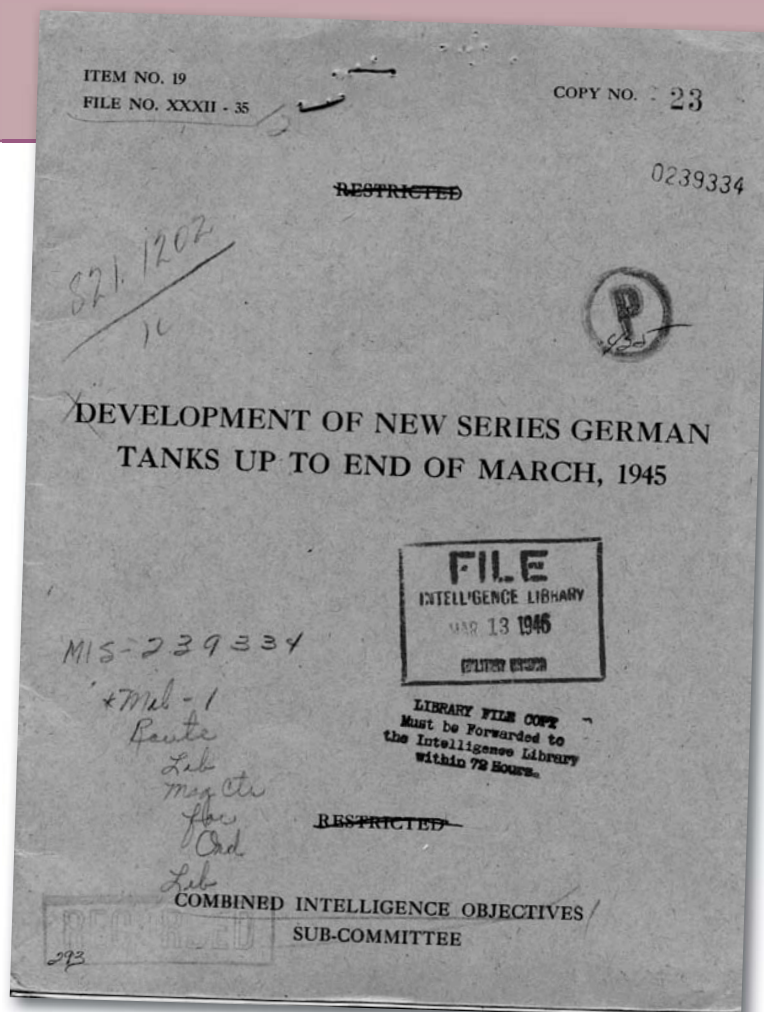
so the front plate could be thick and heavy.

3. A standardised drive train was very much desired to simplify maintenance and repair.

4. Linked to the principle of the standardised drive train a request for mounting suspension units on the outside of the vehicle was included. The idea was to win space inside the vehicle by eliminating torsion bars that ran through the hull. A further advantage was the opportunity to fit an escape hatch in the belly of the vehicle.

5. In order to halt the immobilisation of vehicles due to mine and gunfire damage to the front-drive, it was demanded that the new series of vehicles should be rear-driven.

Let's take a closer look at each of the five principles put forth by the E-Series programme. That is a valuable exercise since the interpretation of a number of the principles has led to some misunderstandings that persist until today.



# BMW "RUTSCHER" PANZERKLEINZERSTÖRER

## FOUR WEIGHT CLASSES: WHERE'S THE E 5?

Because of the rising popularity of paper panzers and E-Series, quite a few articles have appeared in modelling and military history magazines the last couple of years, especially in France. Unfortunately many of these articles perpetuate a misunderstanding about the E-Series when they talk about the E 5, describing it as the smallest vehicle in the series. However I have never been able to find any documentation that substantiates the addition of an E 5 to the E-Series.

When describing this vehicle many sources fall back on the concept of the Panzerkleinzerstörer 'Rutscher', a very compact two-man crew

vehicle armed with a Panzer Abwehr Werfer, a smoothbore gun firing fin-stabilised rockets. Although this vehicle was contemplated and even a wooden mock-up was created, adding it to the roster of the E-Series cannot be supported by any original documentation. I believe it is safe to say that the E 5 is one of those panzer myths that keeps popping up now and then.

## STRONG FRONTAL ARMOUR

Luckily, the second principle causes less concern when it comes to interpretation. It is no secret that numerous German panzer designs had strong frontal armour and this fact only increased in importance as the war progressed.

You only have to look at the King Tiger with its massive 150mm glacis under an angle of 50° to understand that the German military meant business. It comes as no surprise that the E vehicles honoured this tradition. Let's have a look at the armour thickness of the glacis on the various vehicles:

- E 10: 60mm at 60°;
- E 25: 50mm at 50°;
- E 50/E 75: exact measurements unknown;
- E 100: 200mm at 60°!

## STANDARDISED DRIVE-TRAIN

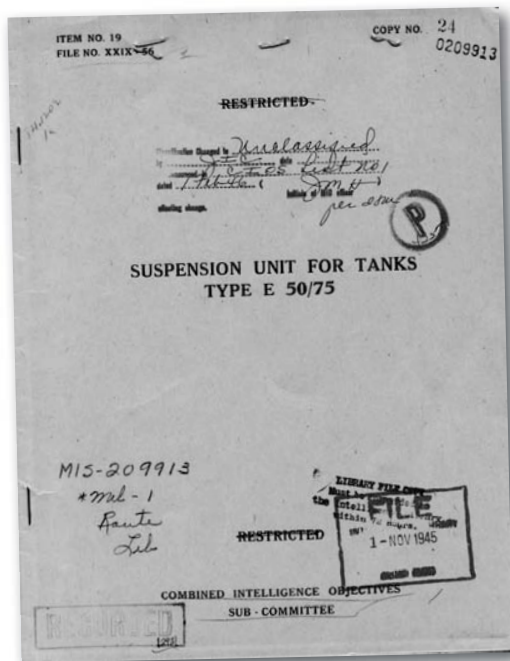
The serious issues with vehicle maintenance and repair the Germans were experiencing, because of their plethora of vehicle types, led them to making

the standardisation of the drive train a priority. As a result the E 10 and E 25 were to share many components such as the engine, transmission, steering block and wheels. Even more clear in this respect are the E 50 and E 75 which were intended to be standard tanks that basically only differed in armour thickness and armament, all other components were to be shared. The E 100 doesn't follow the principle of the standardisation since it was a unique vehicle in a new weight class. The E 100's origins as a rival project of the Maus tank also make the vehicle the odd one out in the E-Series. ►

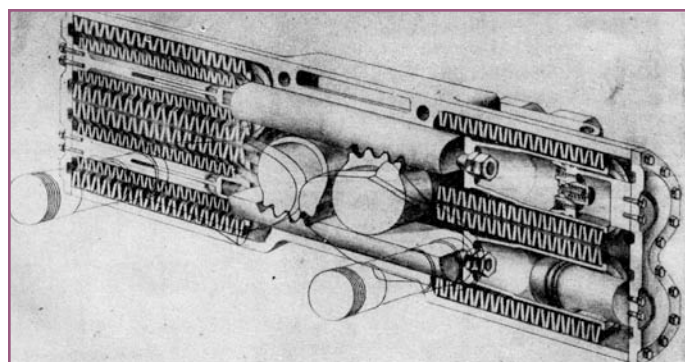
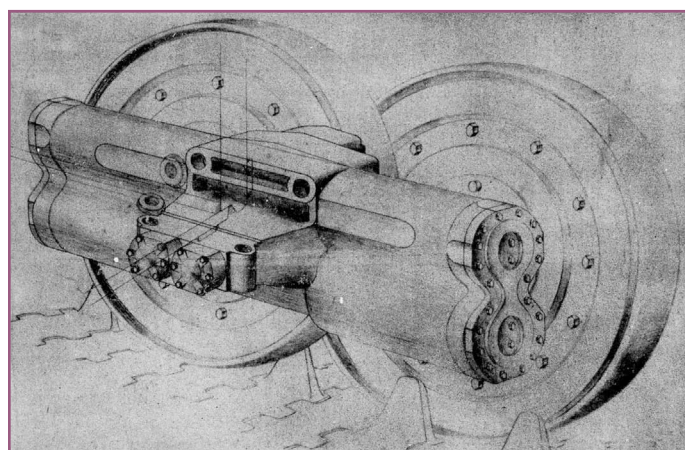
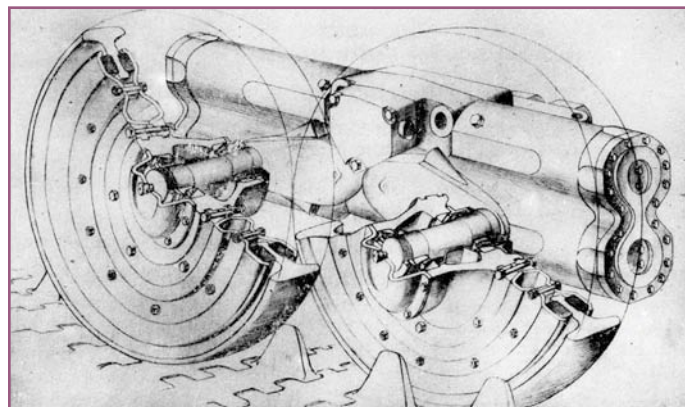




# Think Tank - The German E-Types or Entwicklungsfahrzeuge



arms by means of a rack and pinion arrangement (the reduction ratio of the system is 1-2,83). The rack and pinion gearing is generated so that a given wheel movement exerts nearly the same increment of load on the springs regardless of the angle of the wheel



## EXTERNAL SUSPENSION UNITS

Although torsion bar suspension had already proven its value and is still being used today on many tanks, the Germans were looking into creating more space in the hull of their vehicles by having suspension units mounted on the outside of the vehicle. They were also aiming for a 'smooth ride' with a minimum of movement affecting the crew and instruments. This required a totally new approach and resulted in a number of pretty unique suspension technologies. The E 10 and E 25 for instance used a system of the Belleville Washer type with the spring system in a tube-like upright housing. A German contact of mine had a technical calculation made of the weight carrying and spring capacities of this type of suspension as proposed in known drawings. The results were sobering and raised serious doubts about the practicability of such a suspension. However, the Swiss Army used a development of this type of suspension on the whole series of their domestic tanks (PZ58, PZ61, PZ68).

The E 50 and E 75 were also supposed to use a suspension of the Belleville Washer type, designed by Dir. Jenschke of Adler. There is a great source on this in a report of the Combined Intelligence Objectives Sub-Committee that is solely dedicated to the subject: "Suspension Unit For Tanks Type E 50/75" (File No. XXIX - 56). It reads: "The wheels are mounted on one trailing, and one leading crank arm, respectively. The flexible medium is made up from stacks of 'Belleville Washers' to which the wheel load is carried by the crank

arms." During the interrogation of Ernst Kniepkamp, the head of Wa Prü 6, declared that this suspension was 'very unsound and impractical'. One should wonder whether it would have ever made it to production.

The E-100 again was quite different from the other E types since it used heavy-duty coil springs for its suspension.

## REAR DRIVE

The principle of the rear drive for the E-Series finally is the source for one of the most persistent misconceptions surrounding at least two of the vehicles. While the E 10 and E 25 were clearly developed for rear drive, the E 50/E 75 and E 100 were not. Since the nearly completed chassis of the E 100 was found in Haustenbeck at the end of the war we are certain that it was not rear-driven and had a classic layout. The E 50 and E 75 are more troublesome. The main reason for this are the excellent drawings by Hilary Doyle in Panzer Tracts No. 20-1 that show a toothed idler. Many people saw this as the proof for a rear drive. However the layout of the vehicle is not much different from that of a King Tiger. A vehicle with a rear drive would have a different layout and profile since you have to find a way to incorporate both engine and transmission at the back of the vehicle.

"So why are there teeth on that idler?" I hear you ask. My theory is that, with the reduced number of road wheels because of the new suspension, the idler was essential in keeping the tracks in place and therefore has teeth to better guide

the track.

Although it is clear that no rear drive is possible under the design that we commonly accept as the E 50 and E 75, information in the Combined Intelligence Objectives Sub-Committee labelled "Development of New Series German Tanks up to End of March 1945" (File No. XXXII - 35) has me intrigued: "Up to now, main gearboxes, steering gear and the two external side gears were fitted as separate units. These four separate gears were designed to fit in one casing as rear drive for the E-50 and E-75, so that the side gears on the out hull disappear and become part of the gearing block. This design saved 25% of the working hours and about one ton of weight." Further on in the report one can read: "Our E-50 and E-75 design is the most progressive and modern rear-driving arrangement of any tank production. The data

and particulars of this unit were destroyed ... and have to be newly designed and redrawn if exact details should be required." As far as I know no further technical plans of this set-up exist. Will we ever know?

An interesting trail leads to French armour development just after the war. The French exhaustively studied the King Tiger and were operating Panthers well into the 1950s. You only have to look at the AMX-50 to see the obvious similarities. The AMX-50, AMX M4 and AMX Chasseur de Chars had rear drive and moreover used the Maybach HL-234 engine, all picked up at Friedrichshafen. In collaboration with Maybach they eventually developed the HL-295, with direct fuel injection. This engine was originally intended for the E 50 and E 75. It developed 850HP while wartime estimations had rated it at 1000HP.





## E 10

### E 10

The E 10 was to be the lightest and smallest in the E-Series with a length of 6.91 metres (gun included), width of 2.86 metres and height of barely 1.76 metres. That made the E 10 an easy vehicle to conceal. But it gets even better!

The E 10 had an auxiliary drive coupled to the suspension that allowed the vehicle to be lowered. In ambush/firing position, the hull bottom nearly touched the ground. This would have been a great asset

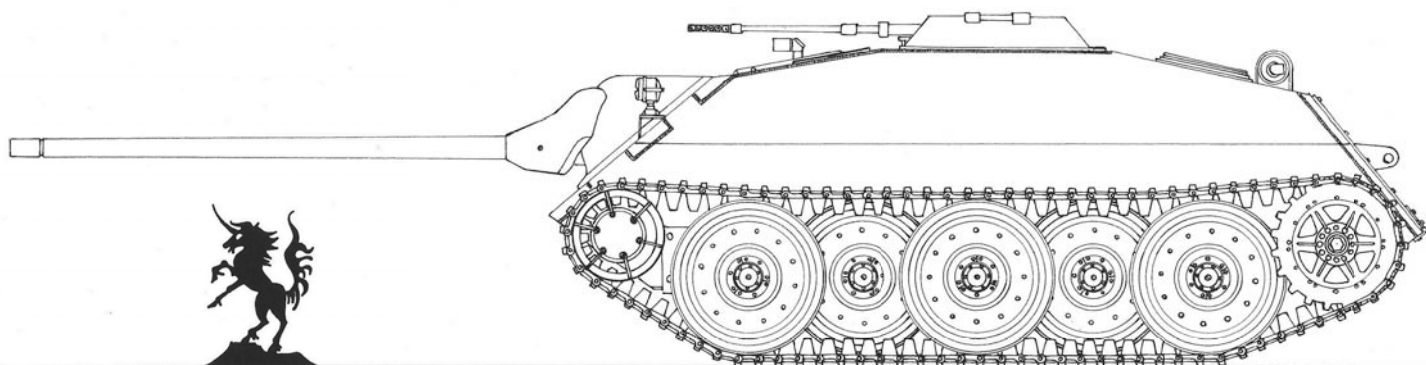
in the defensive battles Germany was fighting at the end of the war.

The contract for the development of the E 10 was given to the Klockner-Humboldt-Deutz Magirus Werk in Ulm. A drawing by that company shows the E 10 with a 7.5cm Pak 39 L/48 as the main armament for the E 10, but by the time the project was eventually cancelled no definite decision on its final armament had been taken. Had the E 10 development continued, who knows, maybe even

a PAW 600 (8.8cm smoothbore) could have armed it. It is interesting to point out that the rear hull plate was hinged. After removing the bolts the plate could be lowered and the entire drive train removed as a whole. You can imagine the advantages of such a concept when components need to be repaired or replaced.

The E 10 would have been a lively vehicle with an engine producing no less than 550HP at 3800rpm. For this, the German

engineers had added fuel injection to the standard Maybach V-12 HL 100 engine, arriving at its bigger brother the HL 101. Add to that four large 1000mm-diameter overlapping wheels and 400mm-wide tracks and you get a very mobile vehicle that would have been able to practice some 'hit & run' scenarios at the expense of the allies. Its nickname 'Hetzer' would have been well deserved.



## E-25 JAGDPANZER

### E 25

The E 25 was the E 10's bigger brother. Sharing many components such as transmission, final drive, engine and wheels, both vehicles clearly responded to the principle of the standardised drive trains. As early as July 1944, Zahnradfabrik-Friedrichshafen was working on a semi-automatic drive train block, including transmission, steering and final drive. The contract for the E 25 was given to Argus Werke in Karlsruhe. They designed a

vehicle with a hull length of 5.66 metres, a width of 3.41 metres and a height of 2.03 metres. This again was a rather compact vehicle, but clearly higher and wider than the E 10. A drawing by Argus shows the vehicle with a 7.5cm Pak 42 L/70, but as with the E 10, no final decision had been made on the armament.

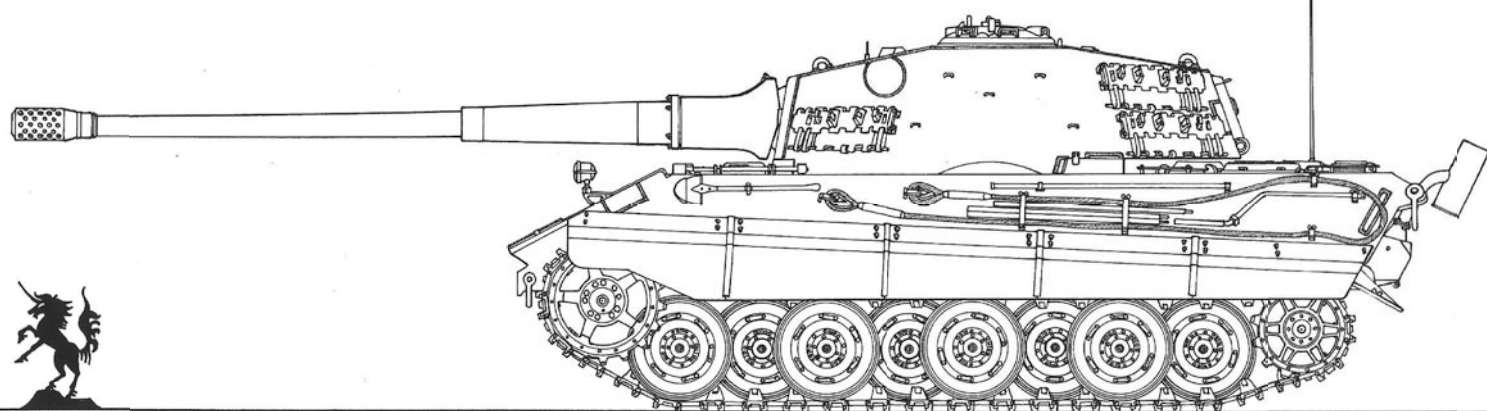
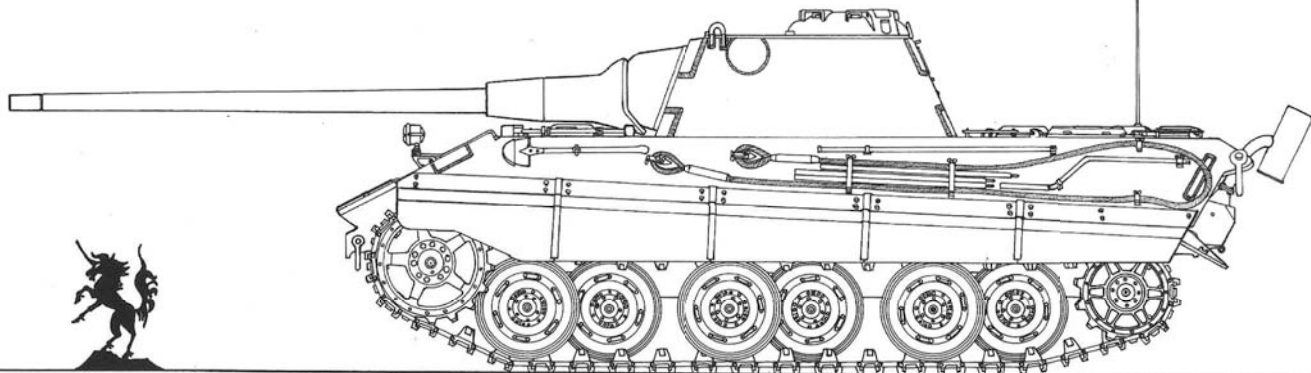
Since the E 25 was supposed to have the same drive train as the E 10, it would have disposed of enough horsepower to be very

mobile and swift tank killer. The tracks intended for the vehicle were 700mm wide resulting in a low ground pressure. With a ground contact length of 2.96 metres and a wheelbase of 2.74 metres, this resulted in a very satisfactory steering ratio of 1.08.

The 1/35th model of the E 25 that Trumpeter released in 2007 features a choice of hull roofs where you can choose for the integration of a small cupola armed with an MG. Although by my

knowledge no official drawings of this set-up exist it clearly taps into the need for more AA protection that the Germans experienced by the end of the war due to the air supremacy of the allies. It also is a link to a design by Ferdinand Porsche also labelled E 25, an unofficial project in parallel with the E-Series programme of Waffen Prüfungen 6. Porsche's design features a cupola that strongly resembles the Trumpeter offering. ►





## ◀ E 50 / E 75

For those who are new to the E-Series, the E 50 and E 75 represent the most obvious link to previous designs. Although the original drawings have been destroyed before the arrival of the Allies, it is commonly accepted that the E 50 and E 75 resembled the King Tiger. The hull would have been almost identical to that of a King Tiger apart from a few differences. First of all the engine deck would have been the improved version that was already intended for the King Tiger July 1945 production. Evidently this layout never went into production, but drawings do exist. They show a three-part engine hatch allowing much better access to the engine and better ventilation with three instead of two ventilators. The air intakes are with louvres and the right-hand side ventilator is equipped with a crew heater or as the Germans called it Kampfraumheizung.

The feature that sets apart the E 50/E 75 hull from that of the King Tiger is the angle of the glacis plate which is 60° as opposed to 50° for the King Tiger. Evidently the entirely different suspension, as discussed above, is a big step away from the torsion bar suspension on the King Tiger. The

E 50 was planned to have three suspension units and six wheels per side while for the E 75 this was four suspension units and eight wheels. This set-up provides far fewer wheels to remove for repairs, but I can't stop wondering whether this reduced number of wheels would have been able to support and distribute the weight of the tanks.

The CIOS report on the new German tanks has a wealth of information on the E 50, E 75. For instance, on the differences between the E 50 and E 75: "The hull structures were to have the same appearance and dimensions. It was planned to keep the same outer dimensions for the two hulls and to give (the) E-50 the advantage of an increased interior which would come about by the use of thinner sheet steel for the lighter tank." Because of its weight advantage, the E 50 would be able to run 60 km/h, while the E 75 would be limited to 40 km/h.

What engine would have been responsible for these achievements? Let's revert to the CIOS Report for an interesting description: "It was planned to use a new motor which was built to the principle of the Maybach HL230. Its assembly parts were strengthened, especially the

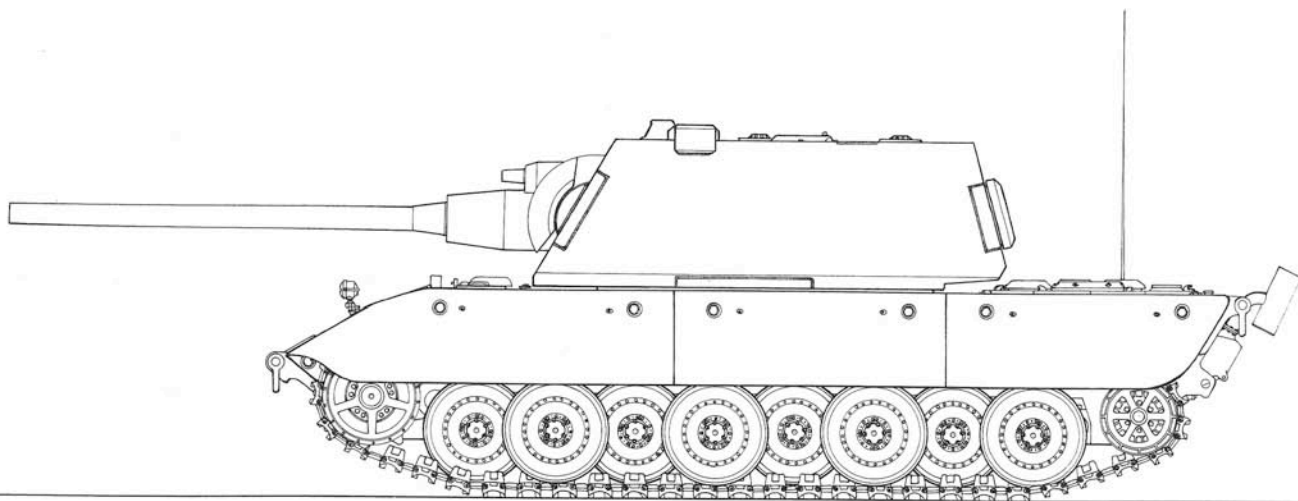
crankshaft bearing, and the connecting rods between piston and crankshaft were improved. The valves were salt-cooled while the whole motor was cooled by a high-boiling point liquid as applied for aircraft motors. The rating of the motor which was almost the same displacement of the HL230 was increased by the following means, (1) the motor received a charging compressor which was driven by a two-cylinder motor that also serves as starter and (2) in place of the duplex down-draught carburettor the motor received a direct fuel injection system." The expected output of this engine was rated at 1,100 to 1,200 HP, a quite phenomenal increase from the standard HL230! Although the engine with the charging compressor was still in the works, by the end of the war a 900 HP forerunner with direct fuel injection was ready.

As far as the turrets for the E 50 and E 75 go, no official information is known. Documents point to the difference in armament between the two vehicles, but none specify what this armament would be and what kind of turret would house it. This obviously has left the door open for interpretation, which led to the E 50 commonly being depicted as a Panther

Schmallturm with an 88mm L/71 canon and the E 75 as a King Tiger turret and 88mm L/100 gun. One should always keep in mind that these are interpretations and not always the most logical ones. The 88mm L/100 gun on the E 75 would have been a troublesome gun for several reasons. Can you imagine manoeuvring in a town or forest with such a gun? Furthermore the vibrations it would have generated would have quickly worn out the gun. Maybe it would have been more logical to search for a solution that would allow the 88mm L/71 to sit more comfortably in a Schmallturm-like turret? That would have been a happy marriage of design and firepower.

To end this part, a final quote from the CIOS report on the turret: "The traversing rack and turret race was the same for both vehicles, so that the turrets could be mounted in either, although they had different armament. Power traverse was to be electrical. The turret design was being made by Krupp and (in?) Essen; how far they progressed could not be determined due to the difficult communication situation during the last months."





## PZKPFW. E-100 «TIGER-MAUS» (1944 PROJEKT)

### E 100

The history of the E 100 is quite peculiar. This vehicle originally was not part of the E-Series programme, but was added later. The origins of the E 100 date back to a meeting on September 11, 1942. During that meeting it was suggested that Krupp propose a competing design for Porsche's Maus tank. Concerns about the reliability of Porsche's novelty inventions in drivetrain design prompted this action.

Krupp responded to the call and eventually a fairly classic design based on tested components such as the 700HP HL 230 engine and other King Tiger components saw the light of day.

Since Krupp was already responsible for the design of the Maus turret, it was taken over for the E 100 project. This turret was armed with a 12.8cm Kw.K44 L/55 main gun and a 7.5cm Kw.K. L/24 gun as secondary armament (on the right side) and also an MG 34 (left side). It had a 220mm front plate and a massive gun mantlet. Both side and rear armour thickness was 200mm and for the roof 60mm. You can imagine that Allied armour would have had a hard time penetrating the turret.

Not just the turret would have given the Allies something to chew on. The hull presented a glacis plate of 200mm at 60° while the side armour was still 120mm. Even the rear plate was no less than

150mm at 30°. Add to that the heavily armoured track guards weighing about 1.5 tons each and you can come to the conclusion that this vehicle was excessively armoured. This megalomania however came with a price: a vehicle weight of about 130 tons. You don't need to be an armour expert to comprehend that this represented enormous challenges on the operational level. There are very few bridges that are able to support such a weight.

Although the Krupp design for an Überpanzer was based on more reliable technologies and components Porsche eventually got the contract, largely thanks to the Professor's friendly relationship with Hitler. The report from the conference between Hitler and Albert Speer on January 3 to 5, 1943 read: "After thoroughly weighing and comparing the advantages and disadvantages of the proposed 'Mäuschen' from Krupp and Porsche, Hitler has decided that the Porsche design will be accepted for production." This however would not be the end of the Krupp proposal.

In the spring of 1943, Ernst Kniepkamp had revived the project as part of the Entwicklungsfahrzeuge. The drawings of the Tiger-Maus from November 1942 were still the basis for the E 100, but the suspension was changed to a spring system.

The further responsibility for the project was handed over to Adler, a company without prior experience in designing panzers. The choice seems to be given in by necessity since Krupp was already overburdened with other projects. The CIOS report on the development of tanks tells a more detailed story: "The HWA (Heereswaffenamt) knew that should Hitler ever decide to build very many super-heavy tanks, they would have to supervise the construction and as a result wanted a design which could be more easily built. As a result, the engineering staff of Adler, working at Friedberg, started the design on June 30, 1943. Although Hitler is reported to have stopped work on super-heavy tanks in 1944, the E-100 design was finished and parts were assembled in Paderborn for the construction of a pilot, at which place the whole existence of the E-100 design was discovered." In a progress report of January 15, 1945 we learn that only three Adler employees worked fulltime on the assembly of the prototype. This report also contained no less than 64 photographs of the development stage of the E 100. That the development had progressed very far is clear both from the pictures and the report: "Coil springs for the suspension were sent by rail to the wrong location and still haven't arrived. The Adler employees

informed me that the suspension can be completed after these coil springs arrive. The Transportkette (rail transport track) is stored here, but the Gefechtskette (combat track) still hasn't arrived. [...] After the fuel lines and the electrical system are completed the drive train can be operated."

Although it was originally planned to use the Maus turret, Krupp had designed a new turret as was revealed in May 1944. The new turret had a sloped front. The 7.5cm gun was installed above the 12.8cm gun. The turret weighed 'only' 35 tons because of the thinner armour plates (front: 200mm, sides: 80mm, rear: 150mm, roof: 40mm). The new turret also included a stereoscopic rangefinder and a gun sight under an armoured housing.

The Germans intended to mount even bigger guns in the E 100; a 150mm or 170mm armament was proposed. It quickly became clear that such a weapon could no longer be mounted in a turret and should be developed as a Sturmgeschütz vehicle. This version is often called 'Krokodil' by modellers and war gamers, but this is just a fantasy name that has no historical ground. This project, and many others, was finally cancelled by Hitler's order of July 10, 1944; to stop development of all Panzers with heavy armament. ►





# Think Tank - The German E-Types or Entwicklungsfahrzeuge

## ◀ A VISIT TO 1946 'WHAT IF'

Many scale model enthusiasts build the E-Types to fit in a 1946 scenario; "What if the war had continued?" This often offers quite a bit of freedom of interpretation for features and camouflage patterns, which can be very rewarding.

As a conclusion for this article it is worth having a look at how probable it would have been for these vehicles to enter service.

Instead of having to speculate, we can fall back on a report of the Panzer Commission, date January 23, 1945: "Oberst Holzhäuer reports that the E-10 and E-25 with rear-mounted electric transmission should be continued if possible. The E-10 had already been stricken from development and supplanted by the 38 D. Oberst Holzhäuer is in agreement with the continued development of the E-25 tank with a 400hp MM engine or a 350hp air-cooled Argus engine. Oberst Shaede informed as to the state of testing. The hulls are in Kattowitz and, on recommendation of Holzhäuer, are to be picked up by a specialized tank transporter. Herr von Heydekampf is of the opinion that the E-25 could fill a void at some time in the future in the weight class between the 38 D and the Panther." According to Ernst Kniepkamp three E 10 hulls were being constructed in Breslau, Silesia (now Wrocław, Poland), but they were not finished when

the Russians arrived. Three E 25 hulls which were reported to be at Alkett in Berlin-Spandau were no longer there when the western allies went to check.

The further development and production of the E 50 and E 75 is more elusive since the vehicles were not mentioned in the final discussions of the Panzer Commission. However, the CIOs report on tank development was rather positive about this issue: "In order to test the new running gear as soon as possible, it was proposed to alter a Tiger hull at the Dortmunder Hüttenverein in Dortmund/Hörde. Castings of the housings and the crank forgings were being worked on. The possibility exists, if so desired, to manufacture this vehicle with new suspension in a very short time. We can recommend this proposal, as the knowledge obtained could revolutionize the whole tank design." There are no reports that this suggestion was ever given suit.

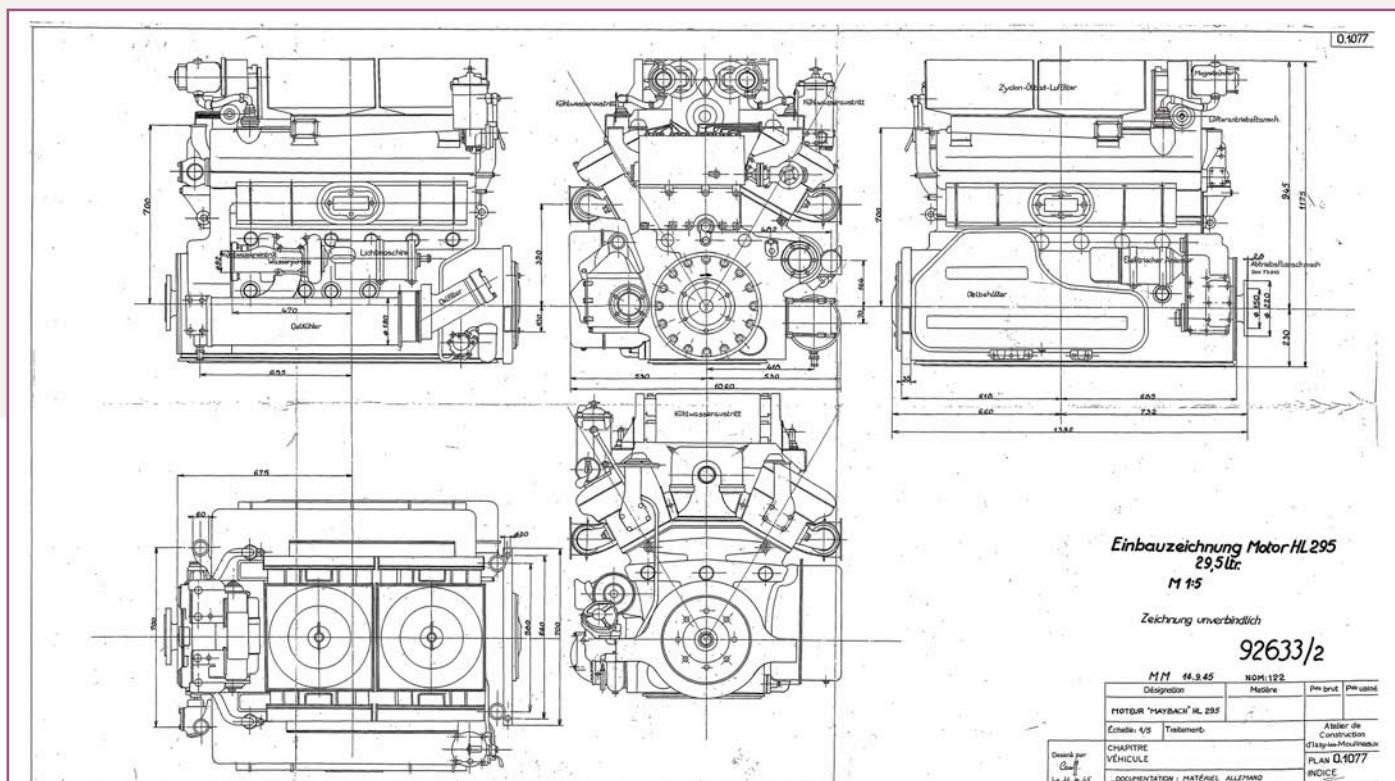
The E 100 chassis was nearly finished when the British discovered the monster tank in Haustenbeck. The chassis and its remaining components were shipped to the United Kingdom. There it was finalized and tested. Little is known about these tests and eventually the chassis would be scraped, destroying the last remaining tangible evidence of the E-Series.



The E 100 chassis was found in a workshop in Haustenbeck. Here we can see a whole range of parts for the engine compartment on the hull roof. (NARA, purchased scan, author)



In this picture we see the E 100's running gear. The wheel axles have been mounted, but the coil springs are still missing. (NARA, purchased scan, author)



Although you can read 'Einbauzeichnung Motor HL295' we are looking at French drawings of the Maybach HL295 engine. The plan data in the lower right corner are in French.



## CONCLUSION

Although work had started on a number of designs and components, the E-Series program came too late in the war and under too difficult circumstances to see a successful completion. Many of its principles would be applied to the future 'main battle tanks' of the post-war period.

The absence of more detailed information and prototypes is both a curse and a blessing for armour buffs and modellers. It leaves room for discussion and interpretation, but it also feeds the hope that someday more documents and pictures might be discovered in some dusty archive to reveal a bit more about this captivating subject.

Special thanks to Herbert Ackermans for his technical and historical input. ■



Suspension unit of the Swiss Fliegerabwehrpanzer 68 using the Belleville washer concept. Picture by Steven Burvenich



Suspension unit of the Swiss MOWAG Pirat Schützenpanzer prototype where you can spot a resemblance with the suspension of the E 10 and E 25. Picture by Steven Burvenich



AMX-50 rear drive.

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**Brett Green** could not resist buying the new Meng 1:35 scale T-10M Soviet Heavy Tank.

## STALIN'S NEXT GENERATION

The T-10 (also known as Object 730, IS-8, or IS-10) was a Soviet heavy tank of the Cold War, the final development of the KV and IS tank series. During development, it was called IS-8 and IS-9. It was accepted into production in 1952 as the IS-10 (Iosif Stalin, Russian form of Joseph Stalin), but due to the political climate in the wake of Stalin's death in 1953, it was renamed T-10.

The biggest differences from its direct ancestor, the IS-3, were a longer hull, seven pairs of road wheels instead of six, a larger turret mounting a new gun with fume extractor, an improved diesel engine, and increased armour. General performance was similar, although the T-10 could carry more ammunition.

T-10s (like the IS tanks they replaced) were deployed in independent tank regiments belonging to armies, and independent tank battalions belonging to divisions. These independent tank units could be attached to mechanized units, to support infantry operations and perform breakthroughs.

The T-10 served with the Soviet Union but was not known to have been provided to Warsaw Pact nations, though Soviet heavy tank regiments stationed in those countries may have been equipped with them. T-10Ms were "in the unhappy position" of simultaneous production by two factories (Kirov as Object 272 and Chelyabinsk as Object 734) "with incompatible

parts". Not until 1962 was Kirov's version standardized upon.

Heavy tanks were withdrawn from Soviet front-line service by 1967, and entirely removed from reserve service by 1996.

It is estimated that some 6,000 Soviet heavy tanks were built after the end of World War II, including IS-2s, IS-3s, and T-10s.

Meng Model has now released a 1:35 scale T-10M. The kit comprises 328 parts in dark green plastic, ten parts in clear, 192 black track links, 384 black handed track pins, a clear plastic two-part track assembly jig, a photo-etched fret, 20 polythene caps and markings for four vehicles.

The kit features beautiful surface features with authentic cast and rolled steel texture featured on the hull and turret.

The torsion bar housings, the bump limiters and drive joints are all separate parts to be added to the lower hull before the working torsion bar / axle assemblies are fitted. The road wheels are fixed with polythene caps.

The tracks are made up from individual links plus two pins. The pins are handed inboard and outboard. The clever clear jig allows five links to be assembled at one time. The pins are inserted five at a time in the sides of the track links before they are even cut from the sprues. This should make the task more manageable than the 522 parts might suggest.

There is an impressive amount of stowage boxes, with brush guards also supplied as fine plastic

parts. In fact, even the tow cables are moulded in the hard green plastic with separate towing eyes. They look pretty impressive too.

Continuing their efforts to extract the maximum from moulding technology, the texture of the canvas roll on the rear of the turret and the side-mounted unditching beam are also beautifully done.

The main gun may be elevated and lowered thanks to polythene caps, and the turret hatches may be left to operate with their workable hinges. The cupola-mounted DShK machine gun looks fantastic.

The kit's photo-etched fret supplies nice woven-effect mesh for the engine deck grilles.

Meng's 1:35 scale T-10M is a beautiful kit with a very high level of detail delivered with a minimum of multimedia. It really is a tribute to the potential of modern injection moulded plastic.

Although nearly 1,000 parts sounds daunting, the tracks make up nearly 600 of these, and the jig will make this task much more manageable than the total suggests.

If you are a fan of post-war Soviet vehicles, Meng Model's 1:35 scale T-10M is a must-have.

Even if you're not, this is an exquisite kit that deserves to be built. ■

Purchased by the reviewer and available from hobby shops online and worldwide.



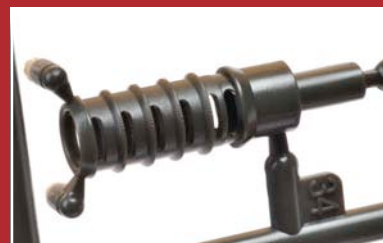
Upper hull.



The lower hull features separate suspension elements.



Subtle cast texture on the turret.



Beautiful texture on the intricate muzzle brake.



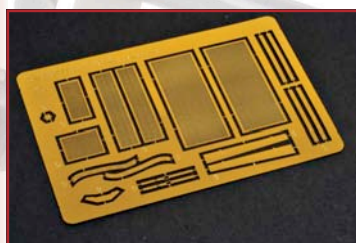
More texture art on the unditching beam.



The tow cables are moulded in polystyrene plastic.



Track pins are handed inboard and outboard.



The kit photo-etched fret.



Markings are supplied for four vehicles.



The individual track links.



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# THE OF





# PAINTING 1946

Pawel Rzymiski upgrades  
Trumpeter's 1:35 scale  
E-50 Standardpanzer with  
multimedia parts from  
Paper Panzer Productions.



**L**ate war German armoured vehicles have always been by far my preferred modelling subjects.

Panthers, Tigers II and Jagdtigers give numerous possibilities for the build itself and even more for the painting options.

The German E series is well covered today in kits and accessories. The most numerous kit releases came from Trumpeter. Until today, Trumpeter has covered all the base vehicles E-10/25/50/75/100 plus some more science fiction ones like Flak version of E-50, E-75 or the Jagdpanzer E-100 (known also as Krokodil).

Being a Tiger II addict, the E-50 and E-75 have been on my target list for a while. They are both based on the Tiger II design and have the very special "after the war" look. Looking at any of them you can't stop thinking about the Tiger II. The good thing about the Paper Panzers - tanks that have never seen the combat and in fact in almost all cases never existed but on drawings - is that a modeller is free to do whatever he likes. Any type of prototype equipment or camouflage scheme is allowed.

When my friend John from Paper Panzer Productions asked if I was interested in building the E-50 using some extra items I couldn't say no. So what is the E-50 really, and where does it come from? The Entwicklung series, more commonly known as the E-series, was a late

attempt by Germany to produce a standardised series of tank designs. There were to be standard designs in different weight classes, from which several specialised variants were to be developed. This was intended to reverse the trend of extremely complex tank designs that had resulted in poor production rates and mechanical unreliability. The E-50 was the future replacement of the Panther as the main battle tank and the E-75 was to take over the role of Tiger II. Although none were completed, the original plans have been found.

## TRUMPETER'S E-50

The Trumpeter kit is a quite straightforward - one could almost say a Tamiya box shaker. The part count is pretty low (only 294) thus abandon hope to be able to detail the model out of the box. What you get can be used as a solid base at best! Seven sprues of light grey injected parts, a length of copper wire, rubber tracks, small photo-etched fret and transparent periscopes. The moulding is not as crisp and sharp as in Dragon or Tamiya kits but it is acceptable. A good idea would be to use some leftovers from DML Panthers or Tiger II kits as well Panther and Tigers dedicated photo-etched sets (instead of buying the E-50 dedicated one). For example, using Dragon's pioneer tools and some after market photo etched attachments will surely pay off.

I started the tank with the rear plate. I'm obliged to say that the Trumpeter guys didn't do their late war modifications homework well. Why? This is quite simple. At the very beginning we are asked to fit the jack and its wooden block on the rear and in the later steps also the track fastener cables on the right hull side. Those elements were used on Tiger II (the protoplast of E-50/75) it's true, but they were dropped starting as early as October 1944 and by the March 1945 all of them completely disappeared from the newly produced vehicles. So should we follow the designers of this kit and fit 1944 equipment to the 1946 vehicle? I've chosen not to follow this path.

The first thing to do was to fill all the holes so thoughtfully prepared for us by Trumpeter with Tamiya putty. I decided not to use the kit rear mudguards as their detail were quite soft. Parts coming from Dragon Tiger II would be fitted much later - after fitting the tracks. The only kit part I used here were the shackles. The rest of them were replaced by the upgrades from Paper Panzer Productions. ►



## ◀ PAPER PANZER PRODUCTION UPGRADES

I decided to use the very nice PPP35002 exhaust resin set. The set consist of two exhausts and a towing device. Exhaust covers come with casting texture and casting numbers observed on surviving vehicles. They also come with the lifting lugs and pre-drilled holes in the covers. The flame suppressors (Flammvernichters), well known from the late Panther, have a feature rarely seen in models: the bottom part has been created to match pictures of the Panther G at Bovington. They also have a weld line for representing where the ends of the curved plate met.

Last but not least: the towing device intended for the Jagdtiger and King Tiger. This is a piece of equipment rarely seen during the war. The Jagdtiger in Kubinka has such a device although it is broken off. Until today, I'm aware of only two other pictures proving the use of the towing device on some Tiger IIs. One was taken in the overrun Henschel factory (an unfinished hull), while the other one represents Tiger 124 from SS Pz.abt. 101. The resin part supplied by Paper Panzer Productions comes with casting letters and numbers and with the locking bolt and is of excellent quality. Those parts were given a minimum clean up and were glued using CA glue.

The lower hull was updated with Panzer Paper Productions resin wheel PPP35003 set especially designed for the E-50. Furthermore, Dragon's Tiger II idler and March 1945 sprocket (the one with 18 big teeth) replaced the Trumpeter kit parts mainly because of soft details issue. The kit's quite awful rubber tracks were replaced by the Dragon's Tiger II/ Jagdtiger Transport Track set 6026. Those old fashion indy tracks offer a quite good alternative to the very expensive after market sets from such companies as Friul or Modelkasten.

The main idea for the upper hull was to leave it free of tools as much as possible in order to have sufficient surface for painting and weathering to come. So again the Tamiya putty was put to service. All pre-moulded holes were filled with sufficient amount of putty and than polished to get even working surface for the future. On the hull's sides one of the rare elements to be added were the Paper Panzer Productions Panther Mystery Brackets (PPP35008P). Those little pieces of very nicely casted resin are a real big piece of mystery. Seen on few Panthers and Tigers I their real purpose remain unknown. E-50 matched exactly the upgrade being in fact Panther

replacement. In order to place the brackets correctly on both sides of the hull it was necessary to take measurements and draw crossing lines. Once done, the parts were carefully glued in place. At the same time the (quite nice in fact) kit photo-etched grilles were fitted to the hull.

Further work consisted on adding anti aircraft plates on the engine deck. Those came from Aber's set for Tiger II (front plates) and Voyager set for Panther (rear plates). The up-armoured rear section looked good but still I felt a need of additional add-ons. The fuel vent lines like in the Tiger II were added using 0.5 mm copper wire. Looking for something more I decided to fit Aber barrel cleaning rod and spare aerial stowage. This way of placing the round bin was a field modification and it would be quite possible that such a solution was adopted for the E-50. I really like this story!

The last detail I decided to change was adding double handles on driver's and radio operator's hatches. Again, a real late war Tiger II modification was applied on the E-50. It can't be wrong.

Pre-moulded holes were filled with Tamiya putty to create large working surface for the painting and weathering to come.

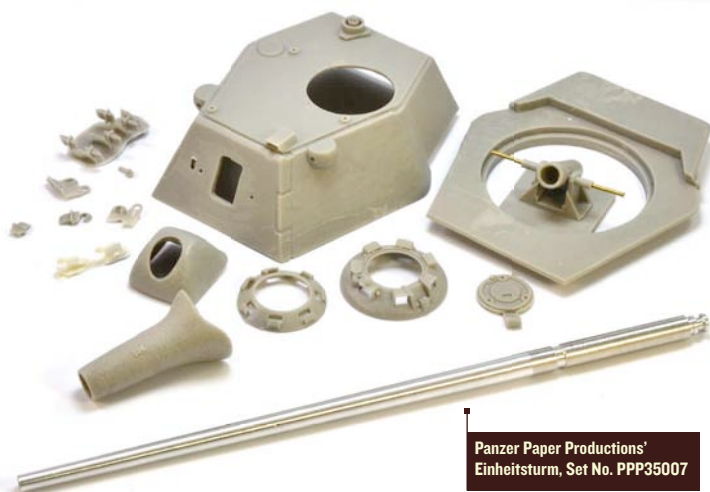
Paper Panzer Productions' resin exhaust upgrade set.

The rear plate with PPP's parts fitted.

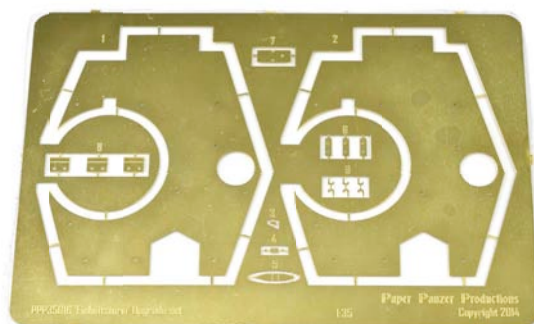
Additional AA armoured plates.

The kit's fine PE grilles and PPP Panther Mystery Brackets attached to the hull.





Panzer Paper Productions' Einheitsturm, Set No. PPP35007



The photo-etched fret included in the set.



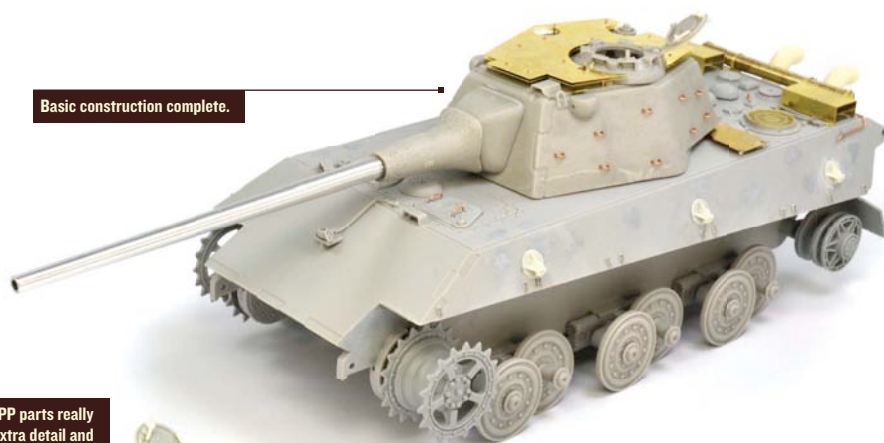
Turret done.



Foliage loops added using fine wire.



Loops and anti-aircraft armour fitted.



Basic construction complete.



The PPP parts really lend extra detail and quality to the model.

## REPLACING THE TURRET

The turret was the final step of the build phase. The one from the kit was replaced by a real gem - the Paper Panzer Productions turret set: PPP35007 Einheitsturm E-50/E75. It is based on the Panther-Schmallturm concept but it was modified to give more elbow room for the loader. In fact, the original late war German design was capable of housing the powerful Kw.K. 43/L71 (the Tiger II gun). However, the space was than very limited and so something would have to be done about it. That's where the Paper Panzer Productions upgrade comes.

The set contains an excellent resin turret, a very well detailed Commander's cupola and a modified gun collar with casting texture and markings. On the shiny side, we have a nice RB Model metal barrel and an impressive PE fret. The PE fret that comes with the set includes some fine smaller elements to enchain the whole piece, but more than anything else it contains custom double anti aircraft armour especially designed for the turret.

Putting it all together is not a very difficult task as all the parts fit very well. A good super glue will be needed though. My personal modification of the turret comes to foliage loops on both sides. Those were already used on late Panthers and few last Tigers II so no counter indications for the E-50. After drilling holes loops were done using short 0.5mm wire sections. The loops were glued with super glue from the inside. ►



Model sprayed with Mr Surfacer 1200.



The Ammo Late German Camouflage set offers excellent shades straight from the bottle.

## PAINTING

Painting started with a solid base coat of Mr Surfacer 1200 in order to allow the paint to adhere better to the resin and metal parts. After years of using the normal, bottle version I decided to get one in a can. The advantage was clearly the ready to use product and no time spent on cleaning the airbrush after. Spraying Mr Surfacer from the can is a little bit different than doing that with the help of the airbrush. We have a little bit less control but nothing really to worry about. Just spray with short bursts and play with the distance you spray from.

The camouflage was the key point of this project. Having used all the "what if" upgrades, I somewhat obliged myself to make the paint special too. The first choice was quite obvious. The camouflage had to be hard edged in order to reflect the German production system with the camouflage applied at the factory. Two colour camouflage was very tempting as it is quite simple to paint due to single time masking but most of the late war vehicles had three coloured camouflage (let's forget for a moment The Octopus Tiger II and few late war Panthers G). To tell you the truth I also find three coloured camouflage scheme much more interesting and eye catching so my choice followed my esthetical convictions regardless of the difficulty in realisation.

Two of three elements were now decided. Last but not least: the colours to use!

The E-50 was a paper panzer that never existed elsewhere than on paper. The basic design modified to match modifications that could / should come up later... All that needed something out of the ordinary. Instead of using the standard German mix of Dunkelgelb/Olivgrün/ Rotbraun I chose to go with Dunkelgelb and two variants of green. In my

opinion this mix matched the futuristic character of the tank.

When I was planning this project Ammo of Mig Jimenez launched a set of paints dedicated to German Late War camouflages (A.MIG 7101). I purchased it as it offers straight from the bottle different shades I needed.

It is very important to remember that starting with dark colours can result in a very dark an uninteresting model. Every wash, every filter or layer of varnish will darken the paint. We should be careful choosing the right shades of paints.

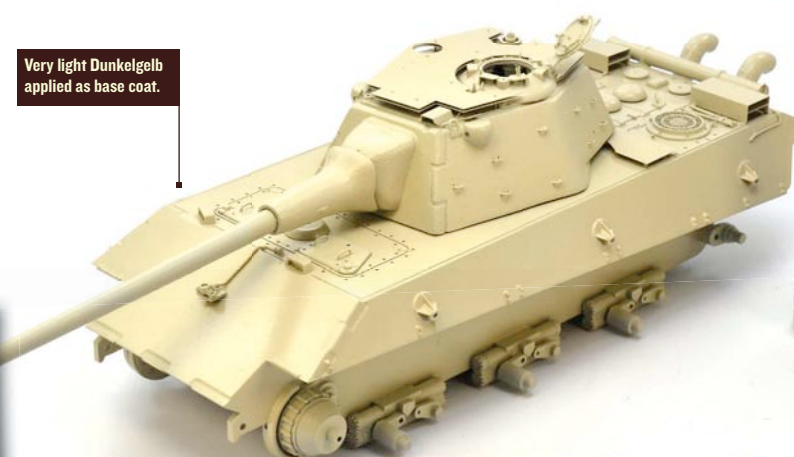
For the base colour I chose the very light and a very washed out "Dunkelgelb aus'44 DG III". The light colour matched exactly the late war paint shortages and thus lighter shades of more than ever diluted paints. It was also a great base for the weathering in further steps.

The easy part was over. Obtaining a good hard edge camouflage pattern requires good masking. Using self-adhesive masking tape such as Tamiya's is quite difficult if we want to obtain a curved pattern. Cutting out all shapes is not an easy task. Keeping that in mind, I decided to use Patafix, which has the big advantage of being extremely flexible.

After masking the areas that should stay in plain base colour I sprayed a light green paint. I obtained it by mixing two Dunkelgelbs with the darker green paint from the set. The last layer was pure Dark Green Resedagrün A.MIG-004.

When the last portion of patafix was taken off the model had its hard-edged camouflage done. The key to the success in achieving good result is masking. All the energy spent on perfect masking will pay off later so it's not wise to make effort sacrifices here. ►

Very light Dunkelgelb applied as base coat.



Hard edged lighter green patches applied over the base colour.



Dark green patches applied to finish the camouflage.



The nice clean hard-edged finish.







Patafix masking in place.

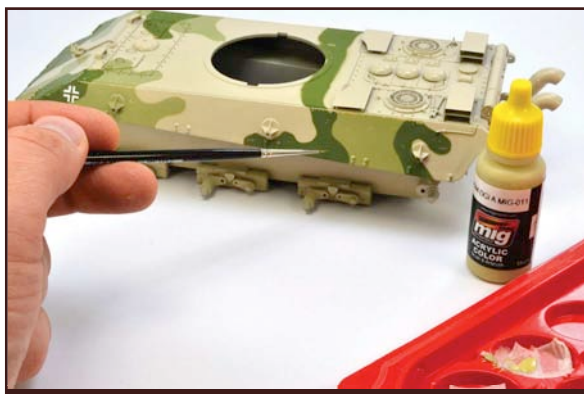
The paint is sprayed straight over the masks.



White crosses were sprayed on both sides using a Voyager metal stencil.



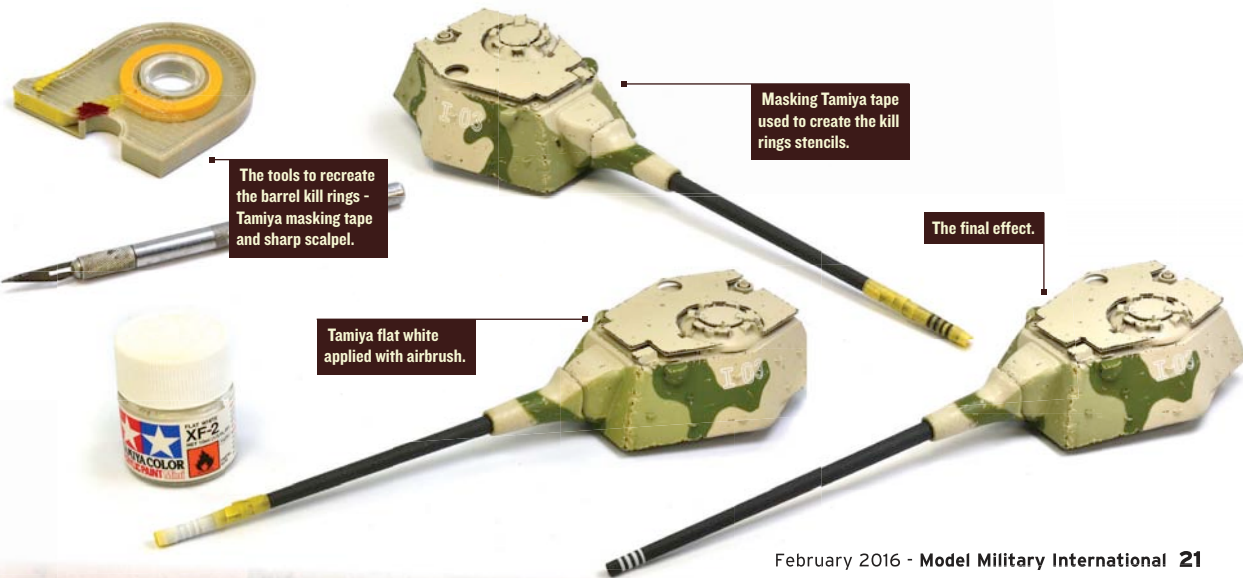
The German cross was done in the outline style without the usual black inside.



Chipping was done in two steps. Here's step one - light scratches made with light Dunkelgelb paint from the Ammo set.



Step 2 - Darker chips were applied over the base colour and on the previously made light chips (without covering them totally).



The tools to recreate the barrel kill rings - Tamiya masking tape and sharp scalpel.

Masking Tamiya tape used to create the kill rings stencils.

The final effect.

Tamiya flat white applied with airbrush.



## ◀ SMALLER PAINTING DETAILS

The work continued with smaller enhancements. German white crosses and kill rings on the barrel were painted using stencils and Tamiya White Flat XF-2. Just before painting the kill rings the barrel received it's final paint. To imitate the grey/black lacquer primer used by the Germans to paint the gun barrels in the factory I used the Panzer Aces Dark Rubber. Straight from the bottle it gives a nice very deep dark grey almost black colour.

## WEATHERING

No combat vehicle looks real without scratches, worn paint and rust! That said, the chipping started by painting chips with a brand new 10/0 Red Sable Kolinsky brush. First, Dunkelgelb aus'44 DG1 (A.MIG-011) was delicately applied over the green areas of the camouflage. This way the light yellow paint was imitating the base colour under the camouflage.

The second step was done with a dark brown paint Chipping Color AK 711 from AK Interactive. The dark colour was applied inside the lighter chips and directly on the light sand base colour. This technique is generally called "Mapping". The chips were mainly concentrated on the edges and in the places where the paint would naturally wear.

Work continued on the general appearance. Applying filters slightly changes the colour shades making them look more natural. The technique described by Mig Jimenez years ago has become very popular amongst modellers around the world. Wanting to slightly modify the colours, I applied the rather light Tan filter from Sin Industries. The liquid was applied with a wide flat brush using just a small amount of the liquid product. It is very important to moisten the surface and not to flood it.

The next step is an old modelling classic: a wash. The easiest way to add more depth to the model is to apply a wash in all recesses and around raised details like for example bolts and hinges. Today many companies offer a wide range of ready to use products that make modellers life easier. It is true that we can make the wash ourselves with the ingredients most probably already in our possession but it really saves time and you'll be always be able to repeat your work with exactly the same colour if necessary.

For the E-50, I picked up an AK Interactive Dark Brown Wash for Green Vehicles AK 045. I applied the wash in all recesses and especially around the upper hull with a brush. This step had to be



The first of many effects is filters using Sin Industries P242 Tan Filter for Tritonal Camouflage.



AK Interactive Dark Wash applied with 50 round brush into all recesses and around raised details.



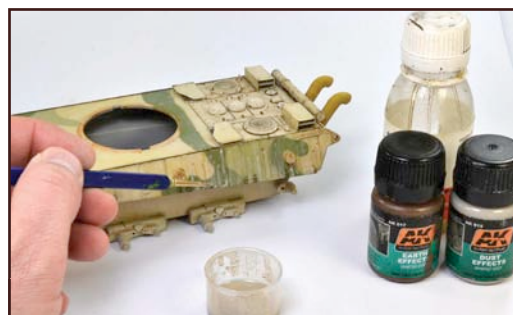
Oil paint dots were applied and then wiped off leaving a thin coat of mixed paints.



Step 1 of 3 - Dark streaks applied with AK Interactive OIF & OEF Streaking Effects.



Step 2 of 3 - Rust Streaks finished.



Step 3 of 3 Applying dusty streaks using a mix of AK Interactive Earth and Dust Effects.



The final effect of 3 kind of dirty streaks.



repeated few times in some areas in order to make the dark wash really strong. It gave to model the necessary depth. The light colours of the camouflage gave also a nice contrast with the dark wash.

The nice contrast was now going to be slightly reduced by applying oil paints. For this purpose Mig and Van Gogh oils were used. Four colours were chosen: White Titanium, German Ochre, Naples Yellow Light and the only dark one: Lamp Black. Small dots of paint were applied all over the model. They were progressively wiped off using a flat brush dampened in White Spirit leaving behind a thin layer of mixed paint that gave to the model a faded and more unified look.

Next in the weathering process were the streaking effects. These are easy to make this time. You can do it with oil paints but I prefer to use widely available products designed to help achieving it in an easier way. I wanted to keep the model interesting and so I decided to apply three different streaks colours. The first one was a dark one done using OIF & OEF Streaking effects. It was applied most widely out of the three.

The second was a rusty one done using Light Rust Wash. It was applied only in some places and especially there where dark chips were imitating damaged surface where rust would naturally appear.

The last was a dusty one made of a mix of Earth and Dust Effects liquids from AK Interactive. It was rather light and transparent colour so it's application toned down a bit the whole models surface.

### MUD GLORIOUS MUD!

A tank is not a tank without mud! The mud can be done really easily using enamel products, oil paints, plaster of Paris a brush and an airbrush. It is important to start with light colour imitating dry mud.

After the first layer is applied we can start using another, darker one for the fresh mud.

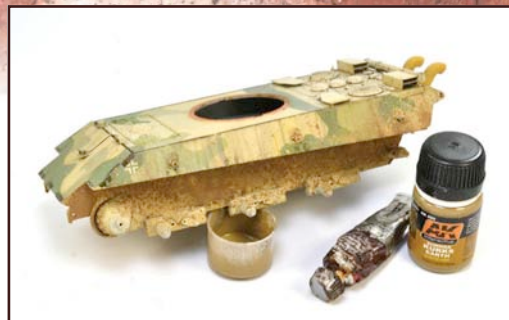
It is very common to use only two colours but for this special project I decided to make the mud in three tones. The first coat of dry mud was applied with AK's Kursk Summer Earth a quite yellow product perfect for the mud's base mixed with plaster. The second coat was exactly the same mix but darkened with Burnt Sienna oil paint.

The great thing about all ready-to-use enamel products is the possibility to mix them with different oil paints. In this way it is very easy to customize the colour and so the final effect.

The last coat was a darker Damp Earth effects. This was enched ►



First layer of mud done by airbrushing Kursk Summer Earth mixed with plaster of Paris on the lower hull and sides of the model.



Second layer was done using the same mix as in the first one but this time it was darkened with Burnt Sienna oil paint.



The third and the darkest layer was applied using AK's Dump Earth mixture mixed with Vandyke Brown oil paint.



The result.



Heavy oil traces were added on the lower hull and rear using the Mig Productions Oil & Grease Mixture.



Wet and humid traces were applied with a semi-transparent mix of Oil & Grease Mixture, Fuel Stains heavily thinned with White Spirit.



Heavy oil and fuel stains created on the engine deck.



Foot step prints were created using a figure and moistened pigment.



Engine deck AA armoured plates repainted with Red Oxide colour to add some more life to the model.



Pigments applied using odourless thinner.



◀ with the Brown Vandyke. This way the final layer is really dark the way fresh mud is.

Keeping in mind a very heavily weathered model, I decided to add some heavy grease traces. Those are always present on mechanical vehicles so it's normal to find them on a combat vehicle. The next element of weathering was the wet traces. Those effects are very easily overdone so we should be cautious when creating them. The mixture is quite easy to obtain but it may be necessary to make few tries.

In the beginning I prepared a more transparent mix of dark paint or (as it was in my case) a special liquid designed to imitate fuel or grease stains thinned with white sprit or enamel thinner. The first, most transparent coat should be applied more widely over flat surfaces of the upper hull. The second layer should be more pronounced with more paint and less thinner. If the stains are painted this way it will look more natural. It is just important to not overdo this effect.

The engine deck needed some heavier looking effects, especially around the petrol fillers. For this purpose, large amount of pigment mixed with dark oil paint and thinner was applied around them. Some time later a transparent and shiny AK Wet Effects liquid was applied to give the necessary look the spilled carburant would have.

## FINAL ADJUSTMENTS

In the final stage I decided to change the colour of the anti-aircraft armour plates on the engine deck. In order to break the light sand/green appearance, the plates were painted in red oxide colour and weathered with dusty pigment. This way some more life was easily and quickly added to the model. Finishing the work on the hull the exhausts were given a rusty treatment with rust dedicated products.

The turret appeared to be under weathered. Lifecolor Tensocrom liquid pigments are very interesting mediums to use. Being acrylic it is easy to use them during the last stages of weathering. They are semi transparent but using several layers they become quite visible. In order to weather a bit more the turret many thin layers were applied with a brush.

Now the turret's look matched perfectly the quite dirty lower part of the model.



Paper Panzer Productions' E 50 wheel set, Item No PPP35003.



Base paint on the wheels using the same colours as for the main vehicle and turret camouflage.



Sin Industries' Ochre Filter applied.



AK Interactive Dark Wash Brown applied.



Dry mud applied using Kursk Summer Earth mixture.



Fresh mud added using Kursk Summer Earth mixed with Burnt Umber oil paint.





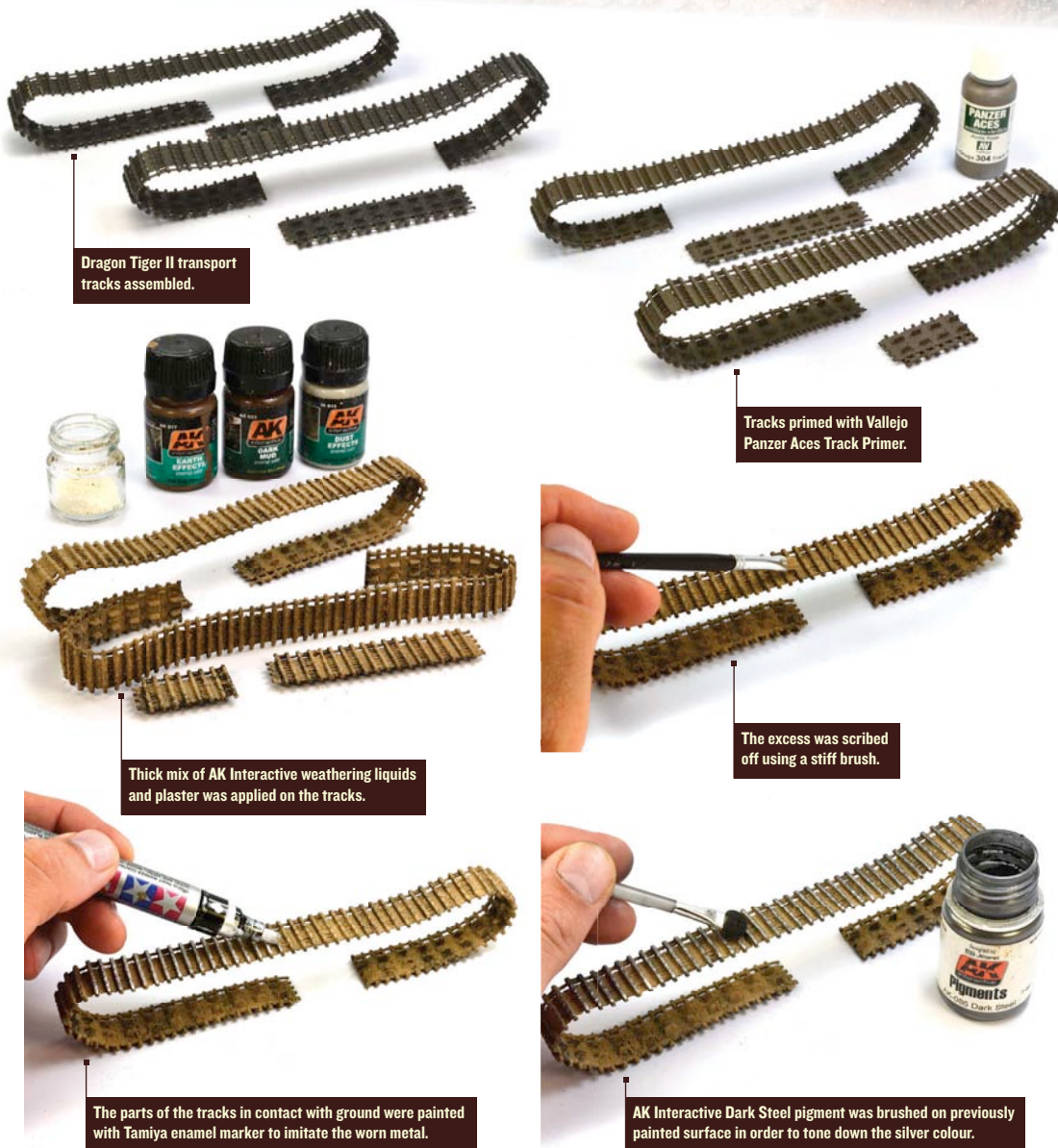
## MAKING TRACKS

At the very end (like I often do) the tracks were painted, weathered and fit on the running gear. The paint process was quite simple. The first step was priming. In this case I used Vallejo Panzer Aces track primer that straight from the bottle has a light brown muddy colour. The Mud itself was created in a very similar way as mud on the hull so I will not go into details again. After the application of all layers of mud the parts of tracks which normally would be in touch with the ground were painted with Tamiya silver enamel marker. When the paint dried the bright silver colour was attenuated by applying Dark Steel pigment.

## FIGURES BY JAMES MCFARLANE

Before I discuss painting, it is important to note that careful figure preparation is key and often overlooked, essentially ensuring the figure is constructed well, and in a natural pose (often well painted figures are ruined by looking like scarecrows!) and that any seams etc. are well filled. Some figures require more work than others and I often re-carve details with a knife and files as sharper details make detail painting much easier. However I must say that the PPP figures used here required minimal prep, they are well sculpted and have good natural poses, therefore some minor filling of seams and some gentle sanding was all that was required.

I don't often primer coat figures unless absolutely necessary as I think the extra thickness of paint will minimise subtle details and if the surface is paintable then it's unnecessary. Therefore once I was happy with how I'd put these figures together I went straight in and started base coating. I use Humbrol enamels and at this stage they can go on straight from the pot. Essentially, I try to get a base colour on all elements of the figure and once completed the result is generally that of a child's toy! However it is important to persist and not to lose faith (which I unfortunately do too often as



Dragon Tiger II transport tracks assembled.

Tracks primed with Vallejo Panzer Aces Track Primer.

Thick mix of AK Interactive weathering liquids and plaster was applied on the tracks.

The excess was scribed off using a stiff brush.

The parts of the tracks in contact with ground were painted with Tamiya enamel marker to imitate the worn metal.

AK Interactive Dark Steel pigment was brushed on previously painted surface in order to tone down the silver colour.

Pawel will attest!) The exception here is the face. All my faces are painted with Vallejo Acrylics due to the good range of skin tones. They have quick drying time and the paint covers and mixes well. In this case I use 70846 Mahogany Brown for the base coat on hands

and faces. I then create a dark flesh mix that looks appropriate and apply a thin coat over the face but not trying to work into the creases of the face too much, i.e. letting the base coat show through. I then use the same mix and make it progressively lighter using flesh

tones and apply additional coats trying to just focus each layer only on the more pronounced areas of the face like cheek bones, forehead and the bridge of the nose in a more discrete way with each coat to essentially highlight the face.

The mixes and number of coats ▶



The hoods of exhausts were painted with four different Model Color Rust acrylic paints.



Rustall liquid was applied in several layers.



Standard Rust Effects from Mig productions was applied to enhance the rusty appearance.





The final turret weathering was done using Lifecolor's Tensocrom Burnt Brown liquid pigment.

◀ will vary completely depending on the figure and how I feel it looks but at a minimum its likely to be 4-5 increasingly more limited coats. As this technique is dependant on using the same paint mix so that changes between coats are subtle it must be done in a single session so that the paint doesn't dry out. This can be quite 'intense' but providing you have a couple of hours without distraction its easy enough to paint a single figure in this time.

About 2/3 of the way through these coats I paint the eyes. This is so any (inevitable) corrections can be made while the flesh paint mix is still workable and some of the latter highlights can be applied afterwards to blend these corrections in. The eyes are simply done with white and a very careful iris is painted with a dark grey. It is important to make them not too big and not too small either. Also make sure the figure doesn't end up cross eyed!

With the highlighting complete,

the faces can look a little pale and so I use 70803 Brown Rose to add some warmth to the lips and cheeks. With the faces and hands painted I usually need to re-touch the base coats of the uniforms etc. but this can be done carefully now the face is painted.

The next step is to add shadows and highlights to the uniforms etc. Selection of the base coat therefore needs to take this into account. As I chose to depict these figures in black given Pawel's desire to model an SS vehicle I didn't use shadows on the uniforms (black is dark enough!). Sometimes highlights can be painstakingly applied to 'highs' of the creases etc on uniforms but paint choice needs to be carefully selected so that it doesn't look too stark and unrealistic. I often therefore use the good old dry brushing technique, which if done subtly means the highlights can be carefully applied with soft edges giving a more blended appearance.



The finished model.

Pre-painted leaves from Ammo Mig.

Leaves were placed in many random places on the model.



For the uniforms I used a mix of 33 black and 32 dark grey for this. The 'flak jackets' gave an opportunity to try the rare 'SS-Leibermuster' apparently the last camouflage pattern to be introduced and too late in the war to be seen on any major scale, however ideal for 1946 figures and adding a level of authenticity to the build. Camouflage uniforms can be very difficult to paint and this pattern especially so. I thin the Humbrol paints with a little thinner for this work as stark colours make achieving a scale appearance to camouflage very difficult, therefore thinner paints blend in better. I also 'micro dry brushed' the first background camouflage colours to increase this effect and then finally painted the darker camouflage stripes over this.

With highlights and camouflage completed I painted the details

such as buttons and headphones and applied some subtle chipping to the helmets. I then left the figures for a few days to allow the paint to harden as the final stage is oil washes applied with white spirit. I keep these very thin and apply in layers to achieve the desired look as thick washes can ruin the look of a figure. Sometimes Windsor and Newton liquid is added to give a better effect and it is important to decant the oil paints onto cardboard before mixing in the wash as this sucks out a lot of the oil that can create a glossy look if you're not careful. I used black on the uniforms and while unlikely to achieve much it gives the advantage of blending the highlights with the base coat further.

For the rest of the figures, I used Burnt Umber as this gives a natural shadow in creases and again blends the colours together.





The crew figures are wearing speculative "Wehrmacht '46" uniform elements.



The weathering has been carefully integrated across all elements of the model.



The combination of Trumpeter's kit and PPP's multimedia upgrades delivers an impressive result.



James McFarlane's PPP crew figures.

This is especially useful for the camouflage areas. Be careful, but using this wash on the faces and hands can also help blend them all together. That pretty much sums it up, I must apologise for not taking photos of the process during painting but hopefully this gives you a good flavour of how the end result was achieved.

My thanks to Pawel for giving me the opportunity to be involved in one of his superb builds and to PPP for the opportunity to paint their great figures.

#### FINAL WORD

Working on the Trumpeter E-50 was a real pleasure. The kit is quite basic and need some tweaks but any German armour enthusiasts will easily find different bits from Panther or Tiger II kits that sleep in the spare box.

In my particular case upgrades from Paper Panzer Productions this model very special.

I would like to thank you my two Friends. John Osselaer from Paper Panzer Productions for supplying all those great items that I had the pleasure to use during this project and James Mc Farlane for painting the figures. ■





Markings are offered for four vehicles.



Andy King takes a close look at Italeri's 1:35 scale Lince, an Italian Light Multirole Vehicle (LMV).

# MULTI-ROLE ITALIAN

**T**he Lince is a four-wheel drive vehicle that was developed by Iveco as a Light Multirole Vehicle (LMV) for a variety of roles such as command, recce and liaison. Currently it is used by armies of quite a few countries such as Italy, Belgium, Greece, Norway, Russia etc and is also being produced for the British army as the Panther which will eventually replace the CVR(T), FV432, Saxon and the Landrover.

The box contents include a separate body and rear, five sprues moulded in a olive green styrene, a single clear sprue, four vinyl tyres, a sheet of etch, styrene mesh for grills, decal sheet and a length of cord for the winch.

The moulding quality is okay but there is some flash and seam lines present on most parts. Pin-marks are confined to hard to see areas, but the chassis in particular has a heavy seam line each side.

The detail is pretty good with decals provided for the instrument dials, photo-etched seat belts etc. The only thing Italeri can't seem to do well is .50 machine guns. The one in the kit has mould pin-marks on one side and a slight sink mark under the breech cover on the other side and best replaced with an aftermarket item however the best feature is the

etch mount for the ammo box.

The vinyl tyres are pretty good detail-wise and commendably free of the flash you usually get with vinyl around the tyre circumference. The only flash present on my example was on the inside wall of two of the tyres. I was also impressed with the lettering on the tyres too as it is very finely done but very legible.

There is no engine included but you do get quite a well-detailed chassis, the only thing is the under body armour plating hides it all. The interior is reasonably detailed and as mentioned above the decals for the instrument panel, photo-etched seat belts and internal roll cage will make it look busy enough.

Italeri have designed the chassis and body join as a snap fit, which should prove interesting. Personally I'll stick it together with glue. Externally, the detail is good with etch provided for jerry can stowage brackets, exhaust shielding, tow hooks on the front bumper, the rear mud flaps and Iveco logo on the front of the bonnet (or hood). The roof-mounted aerals could do with being replaced by thinner ones from brass rod as they are a bit on the thick side. I was a bit surprised that the windscreen wipers were not done with etch as well, these being moulded in

styrene instead.

Four colour options are given; two Italian Army vehicles in Afghanistan during 2006 and 2010 respectively, an LMV of the Spanish Army Guardia Civil, Afghanistan 2009 and a Croatian Army EUFOR vehicle in Chad, 2009. The two Italian vehicles both sport camouflage schemes, one in a three-tone pattern and the other in a rather eye catching two-tone desert scheme of brown and sand. Both Spanish and Croatian vehicles are overall green.

The decals sheet is well printed by Zanchetti Buccinasco with only the two small Spanish flags being slightly out of register.

Italeri has excelled themselves with this one as the overall quality is very good, the addition of the etch parts is a big bonus too. The vinyl tyres are really good as they are and my only real nitpick is with the .50 cal mg, although there are plenty of aftermarket items available. This kit certainly adds to the current crop of modern military 4x4 kits such as the German Dingo, GAZ Tiger and of course the Humvee.

Highly Recommended! ■

Thanks to The Hobby Company Limited for the sample  
[www.hobbyco.net](http://www.hobbyco.net)



The one-piece upper body.



One of the seats.



Nice detail on the door interiors.



The interior tub.



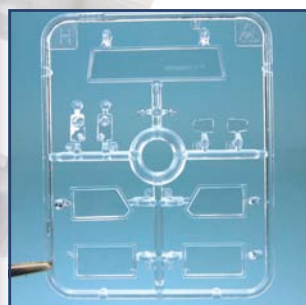
The chassis.



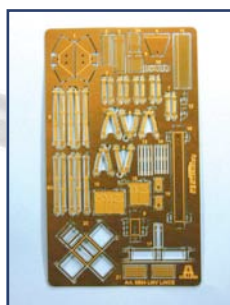
The vehicle dashboard is quite well done too.



The .50 cal could do with replacing.



The kit clear parts.



A photo-etched fret is included.



Vinyl tyres are crisp and well detailed.

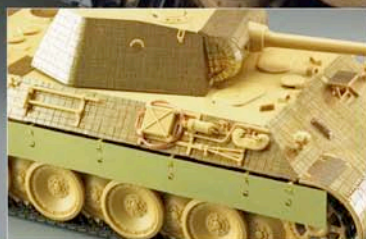
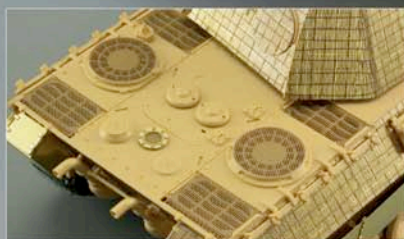


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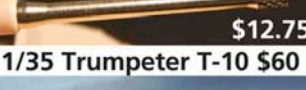
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# DIGGING IN





# THE DIRT



**José Brito builds Mirror Models' 1:35 D7 bulldozer, and creates a post-war scene.**

**O**f all the US military bulldozers, the best known, though not the most numerous type produced, is the RD7/D7. Its production started with the 5E series in 1935, and just 24 examples were built. This was followed by the series 9G produced from 1935 to 1940 and equipped with the inline four-cylinder diesel engine CAT D7 (D-8800) having an output of 82 hp, a two-cylinder gasoline starting engine and a CAT 5-speed gearbox with a ratio of 5/4.

From 1940, it was manufactured as series 7M, and after 1944 in the series 3T and 4T. Total production of all versions from 1935 to 1955 was 56,527 units. It was also the only type mass-produced in an armoured version.

In 1943, 138 units were produced as D7 1T according to requirements from the British Army.

For the US Army and Navy, 1,187 were produced with an armoured cab in 1943 - 1945. The cab protected the driver and was made of one-inch steel to protect against .30 cal rounds. The bulldozer was deployed on the battlefields of WWII and was shipped to other Allied armies under Lend-Lease.

*\*Source - US Army Earth Movers, Part One, Wings & Wheels Publications, R075, Jan Horák and Frantisek Korán*



# CONSTRUCTION

The 1:35 scale D7 from Mirror Models is provided in a box with very attractive box-art. Once the box is opened, we are presented with several high quality plastic sprues, clear parts, photo-etched parts, flawless decals and clear and concise instructions. The quality to price ratio is very high!

The D7 features lots of exposed areas and in the first stages the best approach is building the model in several sub-assemblies.

To reach all the small details, I usually use Deluxe Materials Plastic Magic Glue. For the best results I use their Pin Magic applicator. Pin Magic applicator will allow an ultra-control, because the Plastic Magic Glue is ultra-thin. Being so thin, is ideal to work as capillarity.

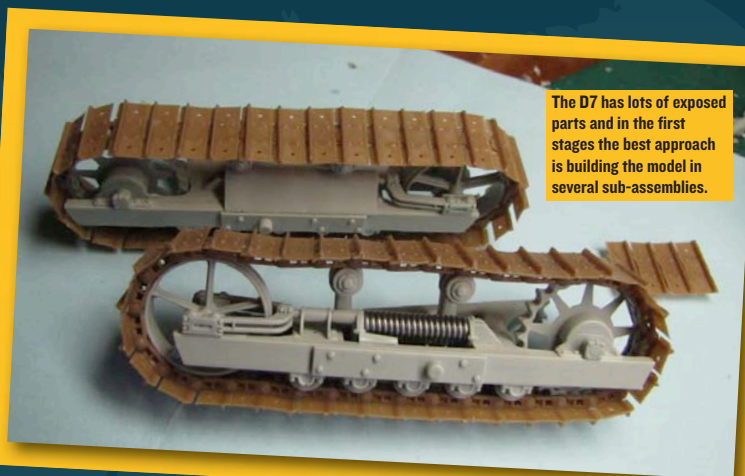
The kit also provides all the engine parts and everything will be visible, so we need to take some

extra care in all those spots. According to the needs, several types of glues were used and as usual, my choice always is the products from Deluxe Materials.

The Mirror Models kit details are lovely and once everything in place, our model starts to take shape. Although the construction are reasonably straightforward, the kit is so detailed that even the simple steps will take some extra time to finish.

Mirror Models also provides a photo-etched fret. It covers the entire model and definitely will improve the final look of our model. The metal parts are extremely fine and very well made.

All the photo-etch parts were also glued in the capillarity way using Deluxe Materials' Rocket



The D7 has lots of exposed parts and in the first stages the best approach is building the model in several sub-assemblies.

Hot glue solution. Being an ultra-thin glue, the flow is superb and the glue can easily reach the most difficult spots with a very clean look.

The individual track links provided by Mirror Models are accurate and well detailed. Once all the segments connected, all we have to do is apply small drops of glue to keep everything in place. In this case I used the Deluxe Materials Rocket Rapid Glue. Being

a thin and super strong glue, it is ideal to use as capillarity and reach the most difficult spots. Once in place, they look absolutely stunning and accurate. The sag is just as real as it can get.

Soon the model is ready for the painting process. All the extra work and details really improve the final look. The combination of plastic, photo-etch and scratch work, are worth all the effort.

# PAINTING AND WEATHERING



The completed model was coated with Vallejo Grey Surface Primer.

The book "US Army Earth Movers, Part one, Wings & Wheels Publications, R075, Jan Horák and Frantisek Korán" was a great help for the building process.



Vallejo set AFV Painting System, US Army Olive Drab, Ref 78402, was used for the camouflage finish.





The colours are added starting with the darkest shade and moving to the paler shades.



Each paler coat is applied more sparingly than the last.



The palest shade is used to highlight raised detail and top surfaces.



The basic faded Olive Drab coat is complete now.



Details were picked out using Vallejo Model Colour acrylics and a fine brush.



Decals were applied using MIG Productions' Decal Softener and Decal Set over a gloss coat.



The colour variation was achieved by applying several oil colours from MIG Productions.



The first coat of Shadow Brown was followed by Buff oil paint.



The oil colours must be applied heavily thinned in MIG Productions Odourless Turpentine and with the help of a round medium size brush.



A heavily thinned mix of MIG Productions Earth Wash and MIG Productions Dark Wash was applied around the driver's area.



Being an overall green vehicle, the green parts also received some colour variation with the help of MIG Productions' Olive Green oil colour.



The most logical parts received a coat of MIG Productions Basic Earth oil colour.



The metallic parts from the blade were treated in Metal Polish Powder from Uschi. This product is extremely easy to use and the results are absolutely stunning.



The weathering in the blade continues and now we apply a light coat of thinned MIG Productions Buff oil colour applied in vertical lines.



MIG Productions Dark Mud oil colour and MIG Productions Shadow Brown oil colour was applied near the working parts at the back of the model.





Olive Green oil colour was also applied, this time in the top structure, applied in light coats and in vertical lines.



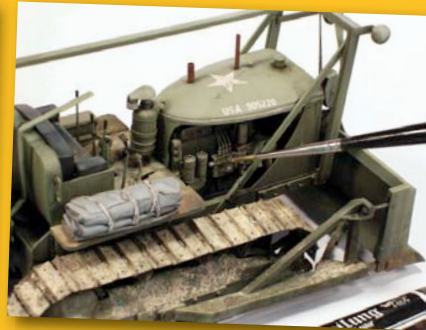
MIG Productions Basic Earth oil colour and MIG Productions Dark Mud oil colour were used again, this time in the recessed parts and in order to represent accumulated dirt.



MIG Productions Basic Flesh oil colour, MIG Productions Dark Brick Red oil colour and MIG Productions Faded Dark Yellow oil colour were combined in order to represent the rusted engine parts.



Engine Grease oil colour from the same company was applied around the workable and lubricated parts of the engine.



MIG Productions Basic Earth Wash and MIG Productions Dark Wash were combined and applied around the recessed parts.



MIG Productions Light Sand wash was applied over the most exposed parts including the top of the engine cover.



The dusty look was achieved using MIG Productions Pigments. Several colours were used in order to get a more realistic look.



The pigments were fixed in place with the help of MIG Productions Pigment Fixer and MIG Productions Thinner for Washes. All we have to do is apply several drops over the pigments by brush and let to dry untouched.



During this process the model will turn very dark and it may seem that the pigments disappear, but after the fixer and thinner evaporates the pigments will appear again and they will look very natural and realistic.

**“The D7 features lots of exposed areas and in the first stages the best approach is building the model in several sub-assemblies...”**



The model, painted and weathered.



# FIGURES AND ACCESSORIES

I'm a diorama modeller and I always add figures to my dioramas. Besides the human factor and scale, they can also tell a story.

The MiniArt figures are made from plastic and the moulding is really nice. Only some minor cleaning is necessary and soon we can start painting them. At this point I also decide to replace the heads by better ones in resin from the Hornet range.



The MiniArt figures are made from plastic and the moulding is really nice.



Once assembled, the figures were airbrushed in Vallejo 73601 Grey Primer.



The Hornet heads were kept separated and airbrushed in Vallejo Model Air 71076 Skin Tone.

Detail and casting are outstanding.



The small toy car from Royal Model is a lovely piece and will definitely tell a story in our diorama. Also, it will be a point of interest in the final composition. The colour chosen for the toy car was Vallejo Game Air 72707 Gold Yellow.

Soon the Royal Model car was finished. I also decided to apply a decal in the front. It came from the spare box and adds that extra touch of interest.



Royal Model Coal Stoves and German Damaged Drum Oils from Royal Model were chosen to be placed in the diorama.



Both sets are in resin and, as usual, the casting is flawless.

The Coal Stoves were primed in Vallejo Grey primers as usual applied in well-thinned layers. I built and primed the two items from the set, but in the end I only used one of them - one of the coal stoves during the weathering work.



The German Damaged Oil Drums were also primed in Vallejo Primers and weathered in acrylics and oils. The damage looks really accurate and realistic.



# BASE AND DIORAMA

The ground was shaped from heat isolation foam. This foam is cheap, easy to find and easy to work with. Also, it is lightweight and ideal to create large shapes.

Several layers of Deluxe Materials Foam Armour were applied in order to give an extra strength to the foam. Once well dry, it's really hard and will protect the underlay foam.

The paved street sheet is from MiniArt range.



The foam was glued to the wood base with the help of Deluxe Materials Speed Bond.



Once everything in place, a coat of Vallejo 70601 Grey Primer was applied.



Vallejo Model Color 70994 Dark Grey was dry brushed over the cobble stones. This is an easy way to fast painting all the cobblestones and keep the paste colour between them.



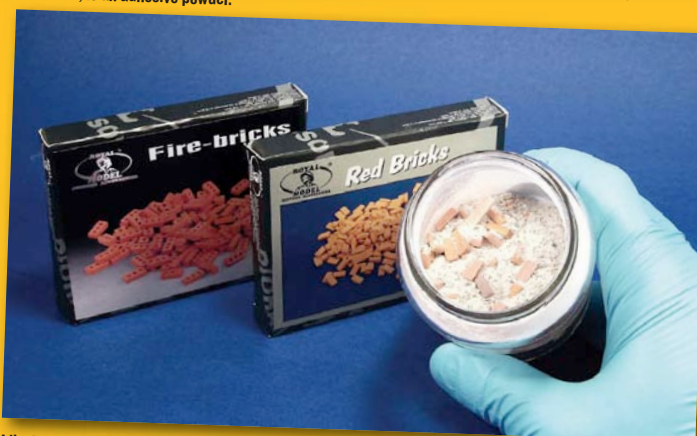
For the debris I always use a combination of Royal Model brick items and Deluxe Materials Ballast Magic. Ballast Magic, from Deluxe Materials, is an adhesive powder.



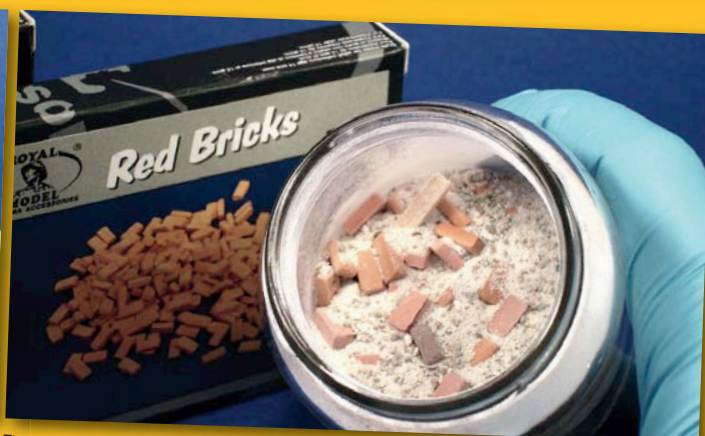
We place a portion of Royal Model bricks in a small jar and add Deluxe Materials Ballast Magic.



We shake it very well and then, with the help of a small spoon, we add the debris mix to the base.



Like is everything mixed, the chaos look is absolutely natural.



The adhesive powder is part of the mix and to activate it, all we have to do add water. Water does not affect the well dry painted areas and once dry, the debris mix is fixed securely in place.



Deluxe Materials Ballast Magic is a lovely product and the results are top quality. Once completely dry it is totally invisible.



The cobblestones were painted one-by-one in Vallejo Model Color. Several grey and white colours were used. This is a time consuming process, but needs to be done. The final result is very convincing and visually interesting.





The debris areas were primed in Vallejo 73603 Black Primer.



Once the black primer was dry, the debris were primed again, this time with Vallejo 73613 Desert Tan Base.



For the cement between the cobblestones, a paste of MIG Productions Buff oil colour was randomly applied. It can be mixed in MIG Productions Odourless Turpentine for a better flow.



Let it dry for about one hour and then just remove the excess with a tissue paper, slightly moistened in MIG Productions Odourless Turpentine.



For the dusty look, several pigments from MIG Productions range were applied in the most logical spots. Then they were fixed in place with the help of MIG Productions Pigment Fixer.



With the base complete, the figures, the toy car and accessories were added.



# CONCLUSION

The D7 from Mirror Models is a lovely kit. Due the number of parts it is not for the beginner, but the fit, accuracy and detail is absolutely stunning. It will also take some time for building, but in the end we are rewarded with a lovely model.

Combined with the top quality stuff from MiniArt and Royal Model, the result is another great diorama for the collection.

Like many of my other dioramas, this one also tells a story. On one side you can see the war and destruction. On the other side, with the boy playing, you can see the life is getting back to normal.

Hope you like it! ■

## Modelspec

Mirror Models 1:35 US Military Bulldozer D7  
Kit No. 35851

### Accessories Used:

- 1:35 MiniArt, US Jeep and Crew MP - Item N.º 35047
- 1:35 Royal Model, Children playing - Item N.º 638
- 1:35 Royal Model, Coal Stoves- Item N.º 744
- 1:35 Royal Model, German Damaged Oil Drums (WWII)- Item N.º 618

### Paints & Finishing Materials:

- Hood glue
- Deluxe Materials glue and special effects solutions
- Heat isolation foam
- Wood base
- Injected plastic
- Resin parts
- Plastic card
- Metal parts
- Vallejo primers, acrylics and thinners
- MIG Productions oils, washes, pigments, filters and thinners
- Graphite soft pencil

### References:

- Wings & Wheels Publications, US Army Earth Movers in detail (part one), item R075 and several internet sites and forums

- ☒ Unusual subject and plenty of possibilities.
- ☒ Not for the beginner.

### Available from

Mirror Models kits are available from  
[www.creativemodels.co.uk](http://www.creativemodels.co.uk)

Rating ●●●●●●●●○

The toy car helps tell this tale of post-war reconstruction.



**“Like many of my other dioramas, this one also tells a story. On one side you can see the war and destruction. On the other side, with the boy playing, you can see the life is getting back to normal...”**









# EASY EASY EIGHT

The commercial release of Tamiya's brand new 1:35 scale M4A3E8 Easy Eight Sherman has just hit the Editor's desk. We take a detailed look at this highly anticipated kit.

**T**he M4A3 was the first Sherman variant to feature HVSS (Horizontal Volute Spring Suspension) as factory fitted equipment. HVSS suspension was equipped with wider tracks to distribute weight more evenly. These wider tracks allowed more armour to be fitted and offered a more comfortable ride for the crew, but also required narrow track guards to be fitted to the sides of the hull.

With its experimental E8 designation, the smooth ride of the HVSS led to the nickname Easy Eight for this Sherman variant. The M4A3E8 first entered service in Northern Europe during December 1944, and the variant continued on the front lines post-war, including service in Korea.

Tamiya has expanded its WWII

Allied catalogue with a new 1:35 scale M4A3E8 Easy Eight Sherman. This kit has nothing at all in common with the Tamiya Easy Eight released around 1970.

Tamiya's brand new 1:35 scale M4A3E8 Easy Eight Sherman comprises 278 parts in olive coloured plastic, ten parts in clear and two black full-length flexible tracks.

The kit is almost all new. The running gear sprues are taken from Tamiya's 2011 Israeli M51 release. I built this kit at the time and found the HVSS to be well detailed but delightfully simple to assemble, with only eight parts per unit including the wheels.

The only other recycled sprue is the .50 cal machine gun, which dates from 1998.

The kit features the T23 turret with the oval loader's hatch and

subtle cast texture wherever appropriate. The running gear includes the later Horizontal Volute Spring Suspension (HVSS) units, and full-length flexible T66 tracks.

All of the other key features of the M4A3E8 are depicted too, including the 47° glacis hull with the enlarged hatches, the correct rear deck configuration and 76mm gun barrel with muzzle brake. Appliqué armour is not provided.

The lower hull is made up from a "flat pack" arrangement of separate floor, sides and engine firewall. The track guards and sponsons are cleverly moulded as one piece per side. The diagonal supports are supplied as separate parts.

Detail on the tracks is very good. They look thin, but comparison with reference photos indicates that Tamiya has got this right. The guide horns are moulded onto the tracks with an indentation front and rear to suggest the hollow nature of the real thing. There is one raised pip on the inside of every 16th link, but these will hardly be visible once the tracks are fitted. The tracks may

be fixed with regular plastic glue. Note that the idler wheel mounts are also workable track tensioners. Do not glue these parts in place initially, as you may want to swing the arms to tighten the vinyl track when it is installed.

The Commander's cupola features separate clear vision blocks fitted from the inside. All hull and turret crew hatches may be posed either open or closed. A pillar-mounted .50 cal machine gun is also supplied. Although the instructions show it fitted to the pillar, the machine gun may also be stowed at the rear of the turret.

Two Jerry cans plus six spare individual track links with separate hollow guide horns are offered as stowage.

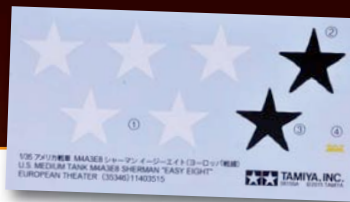
The package is rounded out with a nicely moulded and animated Commander figure.

Tasca has set the standard for Sherman kits for nearly ten years, so comparisons between Tasca's 2010-released 1:35 scale Easy Eight and Tamiya's new kit will be inevitable. Both will look great when complete, but the approach of the two kits is markedly



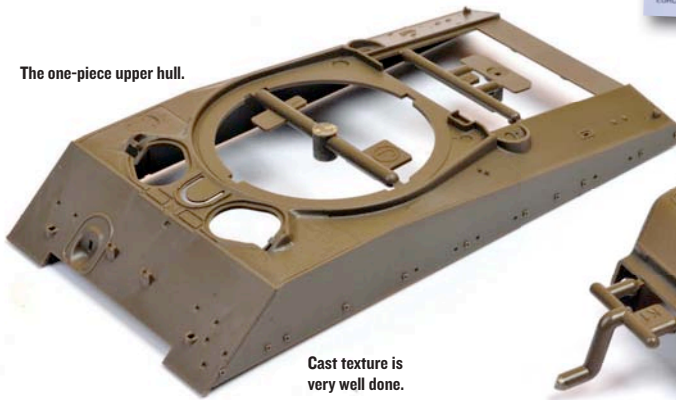
One of the simple marking schemes.





The small decal sheet.

The one-piece upper hull.



Cast texture is very well done.



The T23 turret looks good.



The kit clear parts include goggles for the Commander and headlight lenses, as well as the separate cupola vision blocks.



The full-length vinyl tracks may be glued with regular plastic cement.

different. Whereas Tasca's kit comprises more than 800 parts, Tamiya's is less than 300.

A good example of the different design philosophies is the running gear. Tasca's suspension units are made up from 17 pieces each, and are fully articulated when assembled. Tamiya's are made up from eight pieces, including the road wheels. The only compromise is lack of articulation - the running gear can be posed any way you want as long as it is flat on the ground. For most modellers, this will not be an issue.

## CONCLUSION

Tamiya has certainly snatched the crown of "Easiest Easy Eight in 1:35 scale", with excellent detail and a very buildable parts breakdown.

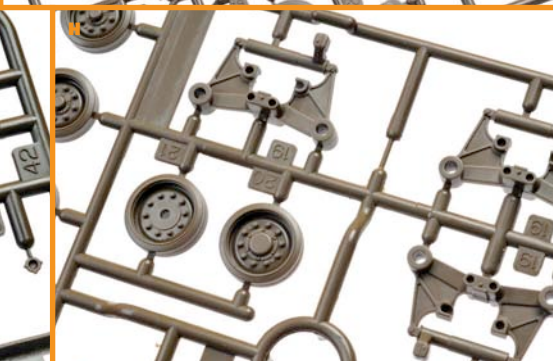
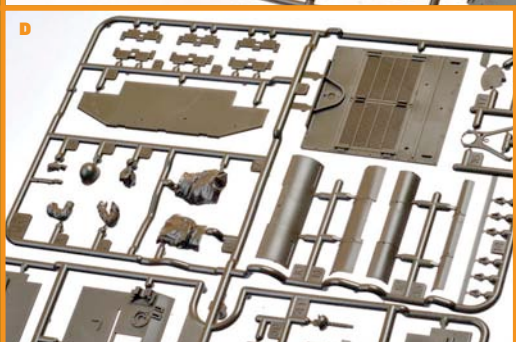
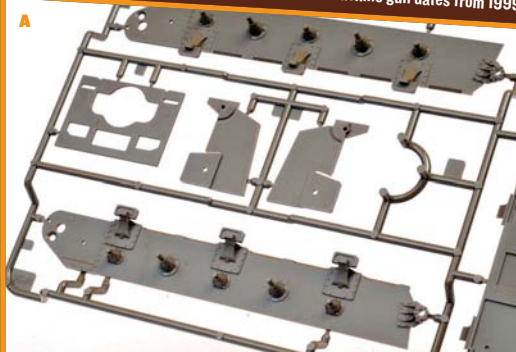
Detail aficionados may wish to replace the plastic brush guards, and perhaps the .50 cal machine gun, but even without these enhancements Tamiya's new 1:35 scale M4A3E8 will look great straight from the box.

I can't wait to start mine.  
Highly Recommended. ■

Thanks to Tamiya for the sample [www.tamiya.com](http://www.tamiya.com)

Tamiya kits are distributed in the UK by The Hobby Company Limited [www.hobbyco.net](http://www.hobbyco.net)

**A.** The lower hull is provided as a flat pack with separate sides... **B.** ...and floor. **C.** One-piece cast transmission cover is included. **D.** Engine deck and rear hull plate. We can see the Commander figure here too. **E.** The track guard and sponson are cleverly moulded as one piece. **F.** Turret detail parts. Note the openings in the cupola moulded for the separate vision blocks. **G.** Pioneer tools and scopes. **H.** The running gear will be fast and easy to assemble. **I.** The machine gun dates from 1999.





# MADE IN CHINA DESTROYED IN

**Federico Collada** experiments with rust, burnt and smoke techniques on an unlucky Gulf War personnel carrier.





# A, N, IRAQ



One of the sources of inspiration – a knocked-out YW-531 in Iraq.



**T**he Type 63 was the first armoured transport made in China completely without the aid of Russian means or advice.

Designated the YW-531, it was produced by Norinco and is similar to other APCs of its time such as the M113.

Design was complete in 1963 and the first units were delivered in 1964 but serious problems surfaced so the improved model was not ready until 1970.

The vehicle is made of welded steel and gives protection against small calibre guns. Armament is a 12.7mm machine gun placed at the commander cupola that can rotate 360°.

The capacity of the vehicle is of 15 men including the crew. The driver sits at the front left and the Commander sits on the front right of the hull.

The engine can be either a Type 6150L 260 hp diesel engine or, on export versions, an 8-cylinder air-cooled, turbocharged diesel engine KHD BF8L 413F that develops 320 horsepower at 2,500 rpm and is located at the right front.

The vehicle has a fuel capacity of 450 litres, which gives it a road range of around 500 kilometres.

The infantrymen are located at the rear of the vehicle where two big hatches at the roof and on access door at the rear provide the exit.

In 1982, Norinco introduced the YW-531C version that was a modernised and improved model with better engine, transmission and communications systems. This version was exported to many countries including Albania, Congo, North Korea, Vietnam, Sudan and Iraq, whose army used it in the Gulf War. ▶



The effects of rust may be seen on the roof.



## ◀ IF IT IS A GOOD KIT, WHY SPOIL IT?

I had this project on my mind for years - not this precise model but making a destroyed vehicle. I have seen many modellers do it with more or less skill and different results. I do not know when the first time was that I thought that it would be a nice challenge to make my own "scrap", but finally I realised that it would not be a single project but the first of many to come. This would be first and the testing for some techniques that I would have to improve, complete and combine with others along with more destroyed tanks to come. That thought was essential to start with this model because I was not sure that I would be completely satisfied with the result and that was the idea that kept me waiting to do it for so long.

## GETTING STARTED

With this idea in mind I decided to start with the easier part, the rusting. I checked many photographs of real destroyed and burnt vehicles at recent wars to see, most of all, how the paint reacts with the intense fire and the subsequent rusting.

Many of the pictures were of Russian and Chinese tanks and softskins used by different countries, among them some Chinese Norinco Type 63 or their equivalents in Iraqi service. The YW531 was particularly interesting as I had the recent Bronco kit at my disposal and I did not know yet what to do with it.

I started building the model, checking what parts I could leave aside for easier painting, which ones I would not need and which ones I should work with straight away. For example, I wanted some of the wheels to have the rubber tyres burned so I had to sand them to leave just the metal part of them. That was an easy job, just reduce with the file. I left the skirts, wheels and tracks to the end to offer good access to the lower part of the hull. I proceeded with the rest of the assembly, which was straightforward with the instructions and left the doors unglued as I did not decide yet which ones would I leave opened. I did not use neither the machine gun nor the tools as I wanted my vehicle to look really bare.



The basic Bronco kit is very nice indeed, with plenty of detail straight from the box.

It's almost a shame to wreck it!

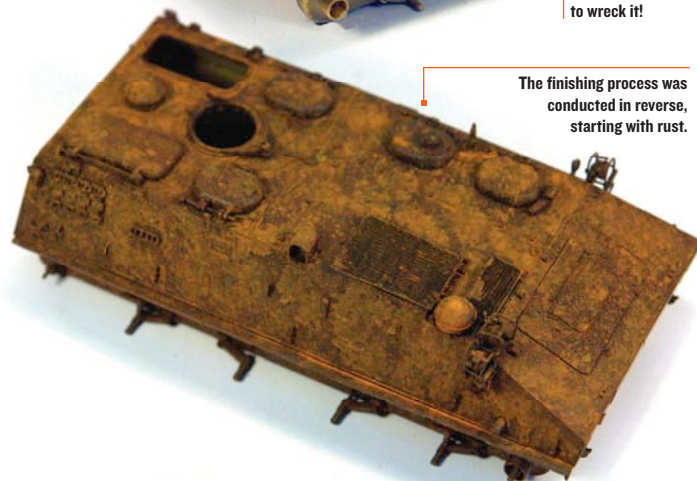
## PAINTING - INVERTING THE PROCESS

Once I had all the parts prepared, I began painting the model.

I thought that the best way to achieve the look that I wanted for the model was to invert the real process. In real life when a vehicle painted in desert camouflage is hit, it catches fire and then rusts afterwards. The painting techniques that I wanted to use for the rusting are very hard to use in a restricted area. They are easier to apply over a wide surface with "sponge stencilling", "toothbrush spattering" and "real rust washes". Afterwards I would paint the burnt areas and later the faded camouflage painting for which I would use the "soap painting" technique.

I started by painting a base coat with dark red mixed with black and brown using Tamiya colours applied with the airbrush.

Then I used the Life Colour kit of paints for rusting. This package consist of six bottles with different shades of rust that you can combine in different ways to achieve a realistic rusted look. In my case I used a little piece of sponge to stencil these colours over the surface of the model starting with the darker colour and finishing with the lighter one, each time insisting less with each of them. This way of painting makes an effect called pointillism often used in naïve paintings - the accumulation of very small spots of different colours that creates a different impression when viewed from a certain distance. That effect does not work when you get close to the model but creates a very nice multicolour base for the next painting effect - toothbrush spattering.



The finishing process was conducted in reverse, starting with rust.

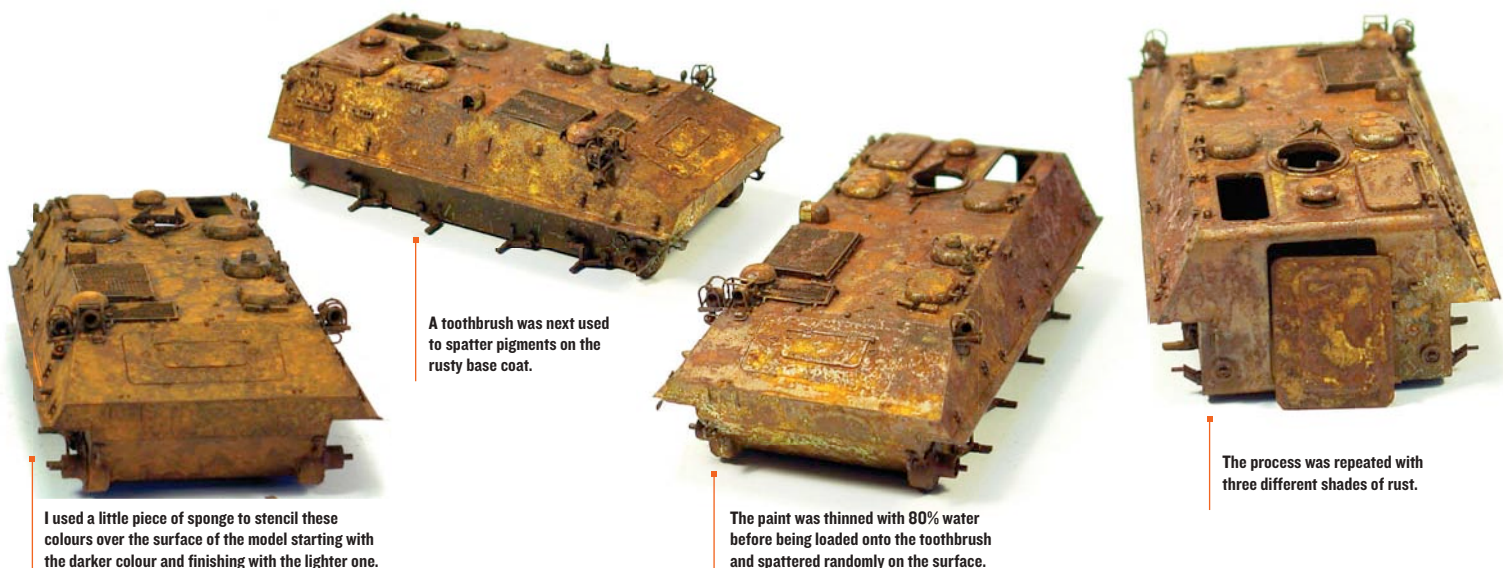
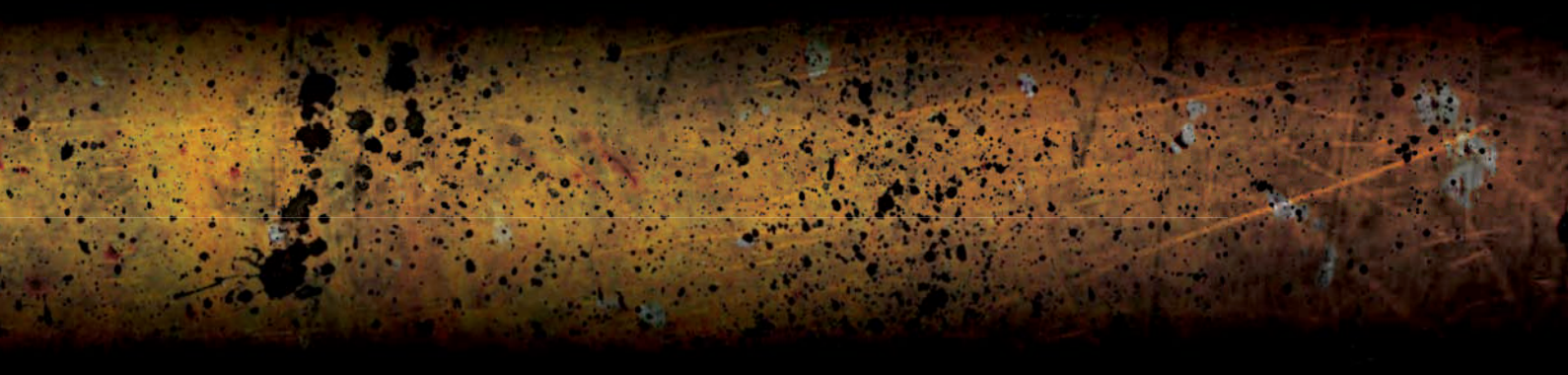


I started by painting a base coat with dark red mixed with black and brown using Tamiya colours applied with the airbrush.



Life Colour shades of paints were used for rusting.





I used a little piece of sponge to stencil these colours over the surface of the model starting with the darker colour and finishing with the lighter one.

A toothbrush was next used to spatter pigments on the rusty base coat.

The paint was thinned with 80% water before being loaded onto the toothbrush and spattered randomly on the surface.

The process was repeated with three different shades of rust.

## TOOTHBRUSH SPATTERING

In order to work with this effect I thought that it would be a nice idea to create a filter made of the same colours to soften the contrast of this first chapter. I remembered using the toothbrush to spatter some pigments to create the mud on former models and I thought that maybe I could use this technique to achieve a special filter made of thousands of little translucent dots of the same colours I used previously with the sponge. I thinned the paint with 80% water and wetted the toothbrush, pulled the strings

backwards with the finger and then let them spring free so they went forward, spattering the mix onto the model.

I repeated this process with three different shades of rust.

## RUST WASH

The most realistic part came then, when I made the wash with the real metal paint to rust it. There is a product that you can buy at the craft shop that consists of two bottles. The first is a paint that has real metal in a solution and you can use it, more or less, like any other paint. The second

bottle has a liquid that rusts the first one once it has dried. Using them in different ways can provide a nice variety of rust effects, from very subtle to very hard and can even create a rough surface. In this case I decided to use it as a wash, to accumulate the metal at the recesses, around some details and in lesser amount over the flat surfaces. I mixed the first component with water at 80% being sure that I had shaken the paint for a while so the metal was in suspension. I applied the wash over the already wet surface of the model and let it dry for a day. It is

essential that the first component has to be completely dry before rusting. The next day I filled a little mechanical sprayer with the second product and vaporized it over the model. The effect is not immediate - it takes from 6 to 24 hours to be seen.

The next day I could see the result of the wash. It was subtle where the metal was hardly deposited and more evident in the recesses and angles. With this, I finished the basic rusting part of the painting. Now it was time for the burnt parts and the smoke. ▶



Detail parts were painted and weathered separately to make handling easier.

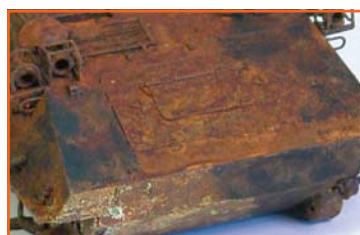


Next, a rust wash from metal paint was applied.



Tracks were assembled but not glued to the model just yet.

The finished effect on one of the side skirts. Scorch and smoke effects have been added here too.



The rust paint comes in two bottles - one with real metal suspended in a solution, and the second bottle that rusts the metal.



The first component was thinned with 80% water before being applied to the model. It needs to be completely dry before rusting.



The variation of the multiple effects may be appreciated here.



## BURNT AND SMOKE AFFECTED SURFACES

I decided to try the special Lifecolor set of paints for effects that includes the smoke shade paint. I used it as a normal paint, creating some large patches where I wanted to make the model to look burnt and I blurred the edges while it was still fresh with the brush wetted in water.

I was satisfied with the almost black finish of the paint so I went on with the last part of the painting, the sand camouflage.

## SAND CAMOUFLAGE

For this last part I chose to use "soap painting", a technique that I like to use for worn camouflage. This consists of washing away part of the surface painting when is a second layer beneath. Let us see how.

You only need your airbrush and a bowl full of water deep enough to submerge the model completely and some detergent powder for washing machines. You have to take care that the base of the model is protected with lacquer varnish and use acrylic paint for the camouflage. This is very important or else you will damage all the previous work with the soap. Remember, the soap will wear off the acrylic paint.

- Once you are sure you have protected the model with the lacquer varnish, prepare the bowl with water and the camouflage paint in the airbrush.
- Paint the model trying not to delay
- Submerge it in the water and take it out from the bowl. Let it drain.
- Dust the soap over the model, but do not cover it completely as the paint will go off where the soap deposits.
- Let it act for 30 seconds
- Submerge the model in the water again and see the paint disappear where the soap was.
- If you shake the model in the water slightly more paint will go off.

I used this trick on my model. First I gave it a generous layer of lacquer varnish and some hours later I performed all the abovementioned steps with Tamiya acrylic sand colour. I had to do this task with many parts of the model were still separated as I wanted the wheels, skirts and tracks to be easy to access.

I let the model drain and dry

for a day and then I protected the surface again with another coat of matt varnish. For the next phase I had to let the varnish dry so I waited 24 hours more.

## FINISHING WEATHERING TOUCHES

With oils I outlined some details using colours black and dark brown. I also painted some details like the extra tracks, that as they were already fitted to the model they received the same painting treatment so to make them look a bit different I gave them some washes with different rust tones to cover the sand paint.

I painted the rubber tyres of the wheels with a brush using a mix of black with a dot of grey and blue acrylic paints.

I always like to imitate the polished metal at some places in my models but in this case I had to decline as this particular vehicle was supposed to be stopped for a long time so every centimetre of metal exposed had to be already rusted.

## DUSTING

I came to the final phase of the painting - the dusting. For this I used MIG pigments, making a general wash first with a couple of sand tones and later some splashing and rubbing.

A wash with pigments is something very easy to do. You just have to mix the dust with water and spread it over the model, the more pigment you use, the more it will cover the model so be careful.

Anyway, if you have used more than necessary you can make a wash with pure water to remove part of it.

I applied the washes on the lower parts of the vehicle and the wheels and tracks.

When all the parts were dry, I glued the wheels, the tracks and the skirts in place.

Finally, I spattered some pigments mixed with water the same way I did with the paint, using the toothbrush. Later, when it was dry, I swapped the excess of pigments in some places with a brush.

## A PLACE TO REST

I wanted my model to be placed in a scene where I could depict part of the battle where the vehicle was put out of action. I checked many pictures of both Gulf Wars



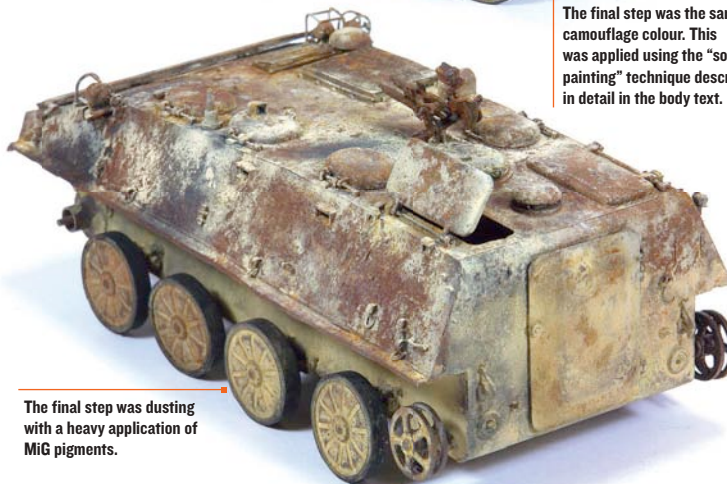
Lifecolor paints were used for the smoke patches.



The edges were blurred while the paint was still wet.



The final step was the sand camouflage colour. This was applied using the "soap painting" technique described in detail in the body text.



The final step was dusting with a heavy application of MIG pigments.



and many of the vehicles I saw destroyed were at the sides of the roads. This seemed a good idea to me and I started preparing a wooden base by gluing a piece of foam panel for the road and adding a sandpaper on top to represent the rough surface of the pavement.

For the ground, I prepared a mix of plaster, small stones, sand and pigment with water and a bit of white glue. I prepared the base sealing it with white glue and surrounding it with masking tape so it could act as a container for the "earth" mix as it was liquid enough to drain if there were any holes. Meanwhile I made the fence with a piece of plastic rod and vinyl mesh, and painted it with the T55 wheel and tracks more or less the same way I did with the vehicle.

I spread the mix over the base taking care not to cover the pavement and soon I deposited the model and the rest of the pieces pressing a bit to adapt to the ground.

I had to let the scene dry for a couple of day, then I applied a wash with the same pigments I used on the model and made the bushes out of sea balls pinching some strings and gluing them stand on

the ground. As the little hairs of the sea balls are vegetation, it was not necessary to paint them as they look pretty realistic in their natural state.

To finish the scene I plastered the side of the base and painted it in black.

### CONCLUSION

This project covered many months as the ideas came and went, practising the painting effects on other pieces, rejecting the tricks that I found not adequate, correcting, waiting days for paint to settle, etc. But when finished, I was satisfied with the result, and most importantly, I had a great time working on it. ■

### Modelspec

Bronco 1:35 YW-531C

Kit No. CB35082

- ✓ First of its kind as a plastic kit; high level of exterior detail; poseable hatches.
- ✗ No interior; many small parts make it best suited to experienced modellers.

### Available from

More information available on Bronco Models website  
[www.cn-bronco.com](http://www.cn-bronco.com)

Rating ●●●●●●●○

Details included bush made from "sea balls", a natural seaweed found in the Mediterranean.



The groundwork is a mixture of plaster, small stones, sand and pigment with water and a bit of white glue.



The model was added to its base.



I had a great time experimenting with these techniques.





# TALES FROM THE CRYPT

Tamiya 1:35 Panzerjager Jagdtiger Fruhe Production • Kit No. 32569



## TAMIYA JAGDTIGER

**Brett Green** revisits the very first Issue of MMI that he worked on as Editor, and the Tamiya 1:35 Jagdtiger that he built for it in 2009.

**T**he very first Model Military International that I worked on as Editor was Issue 37 - May 2009.

By coincidence, I had also built Tamiya's then brand new 1:35 scale Jagdtiger for that issue.

Tamiya's 1:35 scale Jagdtiger represents an early production version with Henschel suspension. The kit comprises around 260 parts in dark yellow plastic plus 130 parts in brown. A small fret of photo-etched metal provides engine deck grilles and two machine gun sights. The package is rounded out with a bag of polythene caps and decals for five

marking options.

Surface detail is beautifully done. The immense superstructure is subtly pitted. The cast texture of the mantlet is very good too.

Moulding quality is excellent. The only imperfection I could find was a pair of ejector pin circles on the inside of the Commander's hatch.

The kit includes a basic 128mm gun breech and mount on a tread plate floor, but this is the only detail in the fighting compartment. The gun detail is handy though, as it may be glimpsed through the large rear superstructure doors. By the way, if you are sparing with your glue, these doors may



The gun and mantlet are from Anvil Miniatures, sadly no longer available.





The model was painted with Tamiya acrylics.

be made fully workable. Crew hatches are separate and may be posed to your own liking.

Construction of this model was supremely straightforward.

Tamiya offers the choice of link-and-length tracks in brown plastic, or two full-length flexible tracks. I chose the link-and-length option, following the assembly sequence illustrated in the instructions.

Tamiya Extra Thin Liquid Cement was brushed on to the track sections to secure them in place. The result is a perfectly fitting set of tracks with no gaps and convincing (but not excessive) sag.

I only strayed from the instructions in two areas.

My subject vehicle was photographed after it had been stripped of its tools, so I wanted to replace the kit's on-vehicle equipment with photo-etched mounts and clamps. The holes in the kit's hull sides and top were first backed with scrap plastic, and then filled from the outside with Milliput. The fittings themselves were sourced from an ancient Eduard photo-etched set, and some spare parts from a more recent Voyager offering.

The other area was the barrel and mantlet. Hidden in the dim recesses of my armour accessory drawers were a resin replacement mantlet and barrel from Anvil Miniatures for Dragon's Jagdtiger. The barrel is cast in one piece (Tamiya's barrel is moulded in left and right halves, so there are two seams to deal with), and the muzzle is rifled. In my opinion, the casting detail on Anvil's resin mantlet is better than Tamiya's too.

Tamiya's 1:35 scale Jagdtiger remains an excellent kit and a pleasure to build more than six years after its initial release. ■

Tamiya's 1:35 scale Jagdtiger remains a great kit today.



# SCALE ACT 2015

The Editor visits the Scale ACT 2015 model show in Canberra, Australia's national capital.

**M**any people are surprised to learn that the capital city of Australia is not Sydney or Melbourne, but Canberra.

The location of Canberra was selected as Australia's seat of Government in 1908. There was no pre-existing town. Canberra was to be a planned city inside the newly defined Australian Capital Territory (ACT), designed by American architect Walter Burley Griffin. Construction commenced in 1913.

The Federal Parliament moved to Canberra in 1927. It met in what was intended to be a temporary location, but this iconic building remained the seat of Parliament until 1988.

Today, Canberra is the home of many national institutions including the National Library, the Australian Institute of Sport, the National Gallery

and the Australian War Memorial.

Canberra also boasts an active model club - ACTSMS - which meets monthly and holds a lively annual model competition that is open to all modellers Australia-wide.

Scale ACT 2015 was held at Kaleen High School in suburban Canberra. This is the third time that the show has been held in this large, well equipped venue.

The main auditorium housed the model competition, which comprised a record-breaking 370 models in categories including aircraft, military, science fiction, maritime, junior and more. The standard of modelling was very impressive indeed.

Also under the same roof were traders, both local and from interstate. It was nice to catch up with Red Roo Models, Mouse House Enterprises,

Firestorm, FoldIT, Hawkeye Models and more.

Good use was made of other areas in the school, with a number of impressive displays of large-scale radio control tanks, Battle of Britain aircraft, 1/72 scale modern warships, model railways and also square riggers.

An entire room was devoted to Swap and Sell, which was busy over the entire weekend.

The local Lions Club kept hunger pangs at bay with a sausage sizzle.

A pleasing number of visitors attended over the weekend.

The organisers of Scale ACT 2015 should be congratulated for a well-organised and enjoyable event.

If you're passing by Canberra next year in mid-November, Scale ACT 2016 should be well worth a visit! ■



Organising the medals.



Ed Russell, Gary Byk and Richard Hourigan from Red Roo Models



Mouse House Enterprises' 30% off sale was popular!



The competition tables were filled with more than 370 entries - a new record for this show.





No shortage of new kits for sale.



Andrew and Jason from FoldIt Models.



The model railway layout was a hit.



The show featured a number of special displays including this one commemorating the 75th Anniversary of the Battle of Britain.



The Swap and Sell area was busy all weekend.



Creative Models Australia had a large stand at the show.



A selection of Panzergruppe South's large-scale radio control military vehicles.



A display of German WWII 1:6 scale vehicles and figures.





Rob Fraser's remarkable 1:72 scale E75.



1:72 scale M4A1 Sherman, also by Rob Fraser



WWI was popular on the tables - Takom's 1:35 scale Tadpole.



Mk.IV Female, also from Takom.



An attractive 1:35 scale Italeri M8 Greyhound.



Tamiya's 1:35 Jeep.



Italeri 1:35 Crusader.



Airfix 1:48 scale Supacat Jackal.





Tamiya 1:35 scale Matilda finished in Caunter scheme.



Tamiya Tiran 5 IDF Tank.



Peter Davis' 1:35 scale Tamiya T-55.



Tamiya 1:35 scale Dragon Wagon with captured Hanomag on board.



Tamiya 1:35 scale JS-2 Model 1944 ChKZ.



Sd.Kfz.3 Maultier.



Italeri 1:35 Marder III.

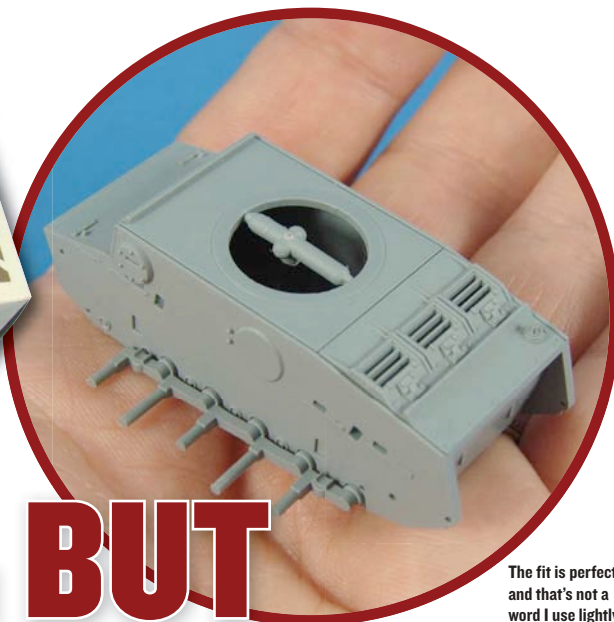


The Sentinel Shield is a category for a nominated model. This year's subject was the Tamiya Sd.Kfz. 232.





James Hatch takes a look at the new 1:72 Pz.Kpfw II Ausf. J (VK16.01) from Flyhawk Models



The fit is perfect, and that's not a word I use lightly.

# SMALL BUT PERFECTLY FORMED

## FLYHAWK MODELS 1:72 PZ.KPFW II AUSF J. KIT NO. FH3005-001

Okay, so what is a large scale aircraft guy doing reviewing a tiny 1:72 kit, especially when it's armour. The answer is simple. If a kit is beautifully made and presented, and the subject appeals, then I will happily take a closer look. Even though I build aircraft, I've been after an entry into the armour world, and one that will be both satisfying and result in an eye-catching and authentic looking creation. The thing that particularly attracts me to Flyhawk is that these seem to be the DML kits of the 1:72 world, and they are so sweet, it's like tasting candy, or cuddling up with a nice hot, malted milk drink. Have I lost the plot? Probably. Simply put, the existence of these little kits, as well as being gold for armour modellers, possibly means that they could well be irresistible to those who build other genres, like myself.

Flyhawk's armour range comes in the most attractive little boxes, with simple yet effective artwork. The

back of the box shows the finished subject, complete with PE (yes, in this scale, supplied as standard), and the box sides show other releases in this range. Actually, the box isn't strictly that. This is an outside box sleeve, and when you remove this, there is a very rigid corrugated box within, and this has a flap you lift, then reveals the contents of this top-opening package. Underneath the instructions sheet, the box is lined with a grey foam liner that is specifically cut to fit the shape of the sprues within. Removing the top layer, and then a photo etch sheet, then reveals more sprues that are packed into shaped foam, and boy, are you in for a treat. No sprues are bagged. This simply isn't necessary when you see how the foam protects the parts. The kit itself contains the following:

- 11 grey plastic sprues
- 2 black plastic sprues
- 1 sheet of photo etch parts
- 1 decal sheet
- 1 piece of nylon cord

For a small kit, the Pz.Kpfw II certainly packs a parts-number punch. In fact, it actually looks like a 1:35 kit that has been miniaturised. Whilst not all tank tracks, for example, are individual, those that wrap around the drive and idler wheels are separate parts. The main lengths are single pieces though. Flyhawk's instructions for this are specific, with coloured ink showing where you need to bend the straight lengths, and also add the individual links into the chain. I really think there's nothing to fear here, and that's coming from a large-scale guy. The moulding of these tracks is also remarkable, with them giving the larger scale a serious run for their money. You'll notice just how fine, in fact, filigree, these parts are, and not a single sign of flash anywhere. Sprue gates are also amazingly fine, meaning minimal clean up before assembly. There are two of these black sprues included (one for each side). Just make sure you pop the removed parts in a small tub for

safety, as I don't know if any spare links are included. Of course, there are a small number that will be fitted to the hull, as the tanks actual spare track parts.

If we're looking at tracks, then we may as well take a peek at the drive and idler, as well as the running gear. The latter parts are moulded onto a single sprue, and they are just as gorgeous as the tracks themselves, incorporating intricate spokes and exceptional bolt and rim detail. Notice how these parts are engineered too. A number of these wheels are moulded with connection arms and aren't separate. These connections won't be visible when assembled, and they add to the simplification of the wheel arrangement, as well as ensuring they all look even when fitted.

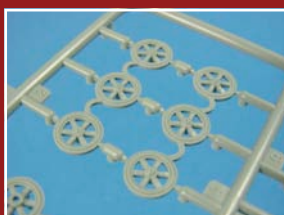
Drive and idler wheels are included on the turret sprue, along with the drive transmission housing parts. I really hope my photos here do these justice. The steel rule is there to give you an idea of the size of these small parts.



Look carefully and you can even see the weld seams along the main plates. Very impressive!



Detail is simply amazing. These would look good on a 1:35 kit.



Note the interconnected wheels. That is to help align and install the interlocked wheel pattern of the Pz.II. Those connections won't be seen when complete. Again, detail is pretty comprehensive and astounding in this scale.



This plastic fender detail is further supplemented by photo-etch additions.

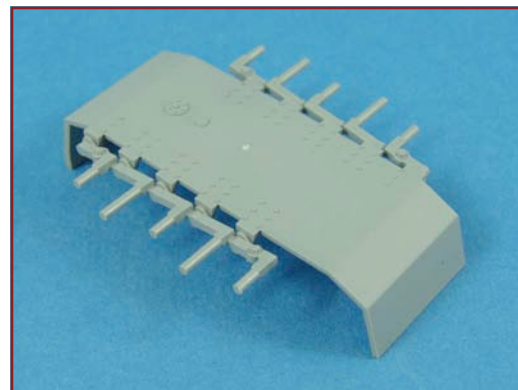




A place for everything, and everything in its place - precision packing. Shaped foam helps to keep everything locked into place during transit.



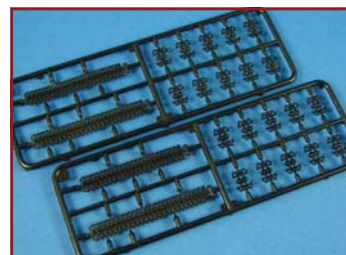
The main hull is a single part. Just remove the little sprue leg from the turret opening and you're ready to go.



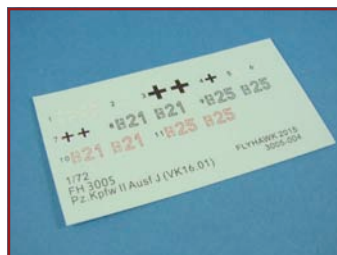
Detail extends to the underside, and the moulded-in wheel arms look excellent.



A single PE fret contains clasps, grilles and brackets etc.



Two black sprues are included for the tracks, containing both lengths and single-track parts. Detail is almost filigree on the tracks with nice open areas and zero flash. The track lengths are no less impressive, and are designed to be bent into shape at the front and rear.



Two schemes are included here, and a single decal sheet caters to both of these. Production is very good.



Flyhawk's instructions are clear, concise and non-ambiguous. Here should be no problem following these.

Now let's look at that turret. This is moulded in four main parts; base, turret, front and mantlet. I sincerely hope you can see the weld detail on the main turret part here. This is just amazing. Sprue gate attachments are also on the lower face of the turret and not the detail surface. This is a trend I'm seeing more often these days, and it's one I like. The hull is just amazing. I'd love to share with you far more than my photographs allow, so I hope you can see what I do here. This is a two-part assembly, with the upper and lower hulls making up that remit. The only sprue attachment here is a small length of plastic that sits in the turret ring. That's it.....simples! External detail looks thorough and complete with fine rear louvres/ hinged panels over the engine bay, plate and port detail, and the finest aerial whip mount you've ever seen. Moulded as a separate part, is the forward plate onto which the vision ports are mounted. Detail is as thorough on the lower hull, including the rivet and port

detail on the underside. Note that this part is moulded with the torsion arms for fitting the wheels. Both upper and lower hull parts fit together with precision that I can only class as scary! No gaps to be seen, and you could even believe that they were integrally moulded when seen. Both of these parts are dry assembled and then fitted into the foam insert for protection within the box. The split forward and rear fenders of the Pz.II are supplied as separate parts that are again, very highly detailed with strake rib, and hinge detail where appropriate. Some PE detail will need to be added to these, in the form of stiffening fillets. The undersides of the fenders won't be seen, and as such, this is where the minimal ejector pin marks are hidden. In fact, there is no issue with such marks anywhere on this kit, with all ejector points generally being 'off part', and carried on the sprue itself. The remainder of parts include the fragile-looking tools, gun and muzzle etc. Again, the detail is as good as most large-scale counterpart kits.

I really would use a razor saw to remove the majority of parts, so as not to load them with any uneven pressure that using cutters, could apply. Just look at those small square sprues. They actually interlock, to save space in the box, and presumably to keep them tidy on the bench! In between the foam layers, lays a piece of stiffening card, inside a clear sleeve. Inserted in here, is a single photo-etch metal fret, a single decal sheet, and a length of nylon cord for the towing cable. The PE contains grilles for the engine louvres, stiffening ribs for the fenders, clamps for securing the spare track links, and a small number of lugs for lifting the turret into position. Quality is excellent, with small tags to aid clean removal. The single decal sheet contains the markings for TWO options. These are:

- 13. Verstaerkte Polizei – Panzer – Kompanie
- Pz.Abt.z.b.V.66, Autumn 1942

Decal production is nice and thin, with true colours and everything in perfect register.

## INSTRUCTIONS

This takes the form of a small, glossy sheet of paper that is folded in half. Construction is completed over 8 simple stages with PE parts being easily deciphered from the plastic ones. Colours are given for the scheme, with Mr Hobby and Tamiya codes supplied. The schemes themselves are printed in full colour to aid the modeller. This, simply put, is an amazing little kit that is bursting with both buildability and wow factor. It's also perfectly engineered and the detail really is outstanding. You might pay a little more for this than a contemporary kit of the same scale, but you really do get what you pay for, and these appear to be the Gold Standard of 1:72 armour kits. I know I've seen nothing as good as these, ever. Watch out for a magazine build as soon as I can clear out my workshop! ■

Thanks to Flyhawk Model for the sample <http://www.flyhawkmodel.com/html/Flyhawkmodel/>



Noticeable here are the forward hull vision plate and the rear hull glacis, amongst many other beautifully detailed parts.



Sprues W & V. A few tools and other outlying hull parts to be found here.



Interlocking sprues! The first time I've seen this.



Sprues A, C & F carry more tools and items such as the large cast towing lugs.



More exceptional detail. I'm more impressed with this after each viewing.





# Book Reviews

## **SUPER KING BUILDING TRUMPETER'S 1:16 SCALE KING TIGER**

BY DAVID PARKER

ISBN 978-0-9555413-7-7

David Parker has published a title on building Trumpeter's remarkable 1:16 scale King Tiger.

This is a large and impressive book. The production values are of note as is the presentation and graphic design. They draw the reader in and push you on page after page. I must say that I have read this book from cover to cover over the last few weeks and I am impressed with the comprehensive nature of this publication.

The book covers 452 pages, printed on high quality art paper and consists of some 21 chapters. The book is devoted to improving the Trumpeter 1:16 kit and it does so in exacting and precise detail. Almost the entire vehicle is covered from the interior to the exterior. The photo sequences are both beautifully photographed and masterfully labeled. The build and improvements take up a little over half the book. The second part consists of a reference Archive drawing from period photos and drawings in glorious black and white. It is pleasing to see these photos have been selected for their clarity and are produced in a larger format than is the current norm. The last half of the book is a colour photographic essay of almost every nook and cranny of current preserved examples.

The modelling world has produced some really fine artists over the years. Some have the ability to produce outstanding models, while others can write concisely and a rarer breed, including David Parker, can combine the two, also adding lashings of his own style to the mix. I find this approach quite refreshing.

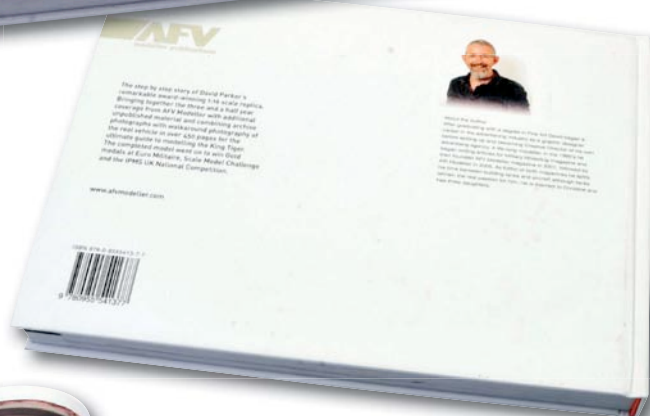
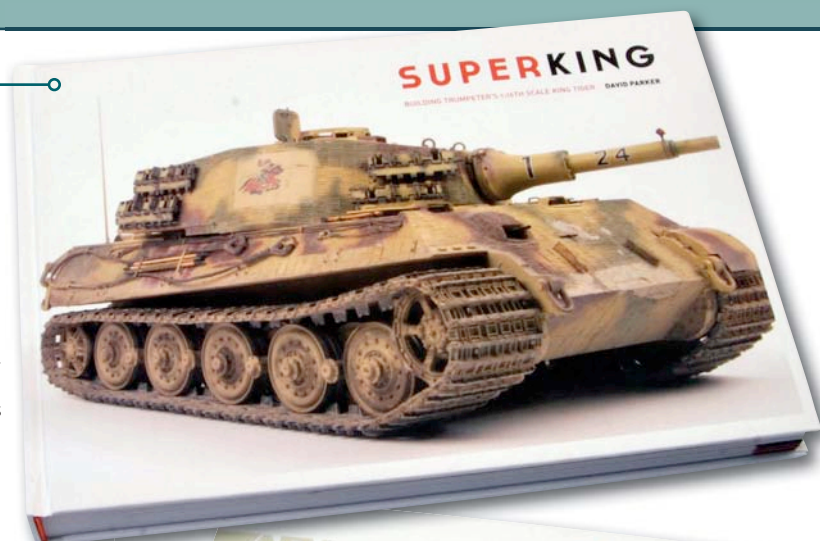
I really like this book. It is almost like three books in one. I also like the motivation factor it gave me when looking at his completed model. For me, it has the right blend of historical information and generous lashings of eye candy. Don't be fooled into thinking this book is just for improving the Trumpeter kit. It is much more than that.

Highly Recommended.

Thanks to AFV Modeller for the sample

<http://shop.afvmodeller.com>

Luke Pitt







Decal sheet.

# GAZ EMKA

The Gaz M1 'Emka' was a passenger car that was produced between 1936 and 1943 with over 62,000 being made. As it was manufactured up to and during WWII, many of them were used as military staff cars hence the connection to this magazine. The chassis was also used as the basis for the BA-20 armoured car, so there's connection number two.

The kit is moulded in grey styrene along with a clear styrene sprue for the glazing (which is pretty obvious really) and with the decal sheet - that's it for the contents.

The standard of moulding is very good with little flash and the few mould pin-marks that are present in hard to see areas. Even the underside of the fenders are pretty spotless.

The clear parts are good, maybe a little on the thick side but they are clear with only a little nick on my example that will need to be buffed out.

Where the kit scores the most points is for the detail, as it is really good. For example, the

Cyrillic lettering on the tyre walls is very finely reproduced and the grills on the sides of the bonnet (or hood) are hollow. The only thing is that the front radiator grille is moulded solid.

There is a complete engine that just needs some ignition leads adding and the engine bay is nicely detailed too, again some leads and hydraulic lines will add to the area.

I imagine the interior would have been pretty sparse on the real vehicle but what there is in the kit is well done. Decals are used for the instruments on the dashboard. The chassis is also very well detailed even though you can't see it with all four wheels on the shelf.

The bodywork is made up of five parts (eight including the bonnet) and might prove tricky to assemble but at least the roof is one piece rather than split in two like other kits I have reviewed of similar vehicles of this period. The doors can be positioned open or closed which is good.

Colour schemes are limited to black or midnight blue with the

bumpers, door handles, window trim etc. picked out in silver according to the instructions. On the real vehicle they would have been chrome so this will be a real test of masking and spraying with the likes of Alclad or similar metallic paint.

The decal sheet is not bad. My only nit-pick is that the instrument faces for the dashboard are a little off-register. I should think the red trim will be a lot of fun to apply as well!

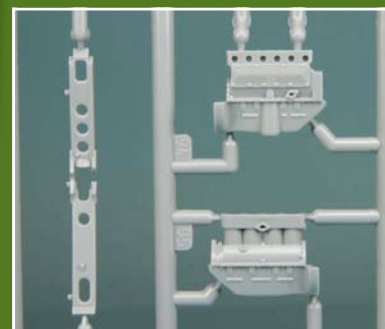
In conclusion, this looks to be a lovely little model. I've sometimes criticised Zvezda in previous reviews for the quality of their moulding, especially their re-pops of the old Dragon Soviet era armour but I knew they were capable of doing far better and this kit is an excellent example of just what they can achieve.

Highly recommended particularly if you have an interest in pre-WWII cars. ■

Thanks to The Hobby Company Limited for the review sample  
[www.hobbyco.net](http://www.hobbyco.net)



The one-piece lower body section.



A full engine is provided...



...and the firewall looks great too.



The separate side engine hood sections.



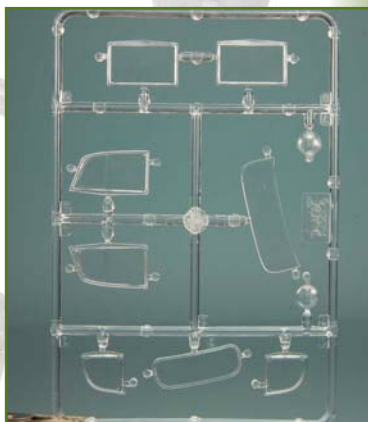
Moulding quality is first class throughout.



One of the wheels with their lovely raised Cyrillic lettering.



The texture on the seats is very impressive.



The kit's clear parts.





## WILDER

1:35 SCALE

### DRY TRANSFERS

**HDF-DT-3501 - WWII GERMAN CROSSES FOR VEHICLES, VARIANT 1**

**HDF-DT-3503 - WWII GERMAN FACTORY MARKINGS FOR VEHICLES VARIANT 1**

**HDF-DT-3504 - WWII GERMAN NUMBERS FOR VEHICLES VARIANT 1, WHITE**

**HDF-DT-3506 - WWII GERMAN NUMBERS FOR VEHICLES, VARIANT 1, OUTLINE**

Adam Wilder is a very well known modeller/ manufacturer, who has been around for quite some time now, and now has his own company under his name producing several products to help us, the modellers, build a much better kit.

Here we have four sets of different 1:35 scale decals that are the dry rub down type, and look to be of a very high quality.

Each set comes in a sturdy clearly marked box showing what is inside, giving the decals good protection. The sheets are 15cm x 21cm in size, and filled with plenty of markings to finish several kits.

The first set is German Crosses in both white, and black and white, for small up to larger vehicles and I must say that you would not need to replace this set for some time - it is just crammed full of these in all various sizes, making this set both handy and great value for your dollar!

Next we have Factory Markings for German Vehicles. When one wants to do a vehicle in all primer red or parts of, these will really come in handy to give that extra "wow" factor by adding the markings as seen in so many photos when vehicles are on the production line with the chalk markings all over them such as dimensions, adding ups, cut direction marks and so forth. I wish there was a small sheet added maybe explaining what some of these markings are so as to use them in the correct spot, but I guess that's when research comes in. Again, this set is full of many markings to finish several kits.

Thirdly, we have numbers for German Vehicles in both plain white and white with black border. They are in two different sizes, again with many there to use, so one won't run out of these in a hurry.

And last but not least, we have German Numbers in Outline, in both Black and White, so they can be used on Grey, Dark Yellow or Tri pattern paint schemes. These are also done in two sizes with plenty to use.

Well, what can I say? I am very impressed with these sets indeed. You get plenty of bang for your buck, they are printed to a very high standard, and most important, they are very useable sets that can be applied to all German WWII subjects. I am keen to see what is now released in the future.

Highly Recommended.

Thanks to Wilder for the samples <http://wilderusa.com>

Andrew Judson



## DRAGON

1:35 SCALE

### TAUCHPANZER III AUSF.H

KIT NO. 6775

Planned for use in the invasion of Great Britain, a number of Panzer IIIs were converted into diving tanks. In the end these tanks were not used but even though the Tauchpanzer wasn't deployed in Operation Sealion, they were used during the invasion of the Soviet Union.

This latest addition to the 1:35 scale Panzer III family brings nothing new to the table. Instead it merges parts from Dragon's previous releases to bring this specific version. Only the box, instructions and decals are 'new' with one of the etched frets being totally exclusive. It is an amalgamation of plastic parts from two recent kits : 6641 (the early production 'H') with 6773 (Tauchpanzer 'G'). Molding quality is flawless throughout and the level of detail present is superb.

The suspension is made from separate torsion bars & swing arms so you can have it positionable if you wish. There are many outstanding features of the kit, and those that caught my eye were the intricate lifting hooks, the bolt and rivet detail throughout and the new coaming for the hull machine gun. Moving onto the turret, we are instructed to fill some of the countersunk screw detail and Dragon provide the hatch and vision port internals, plus a detailed gun breach, optional turret stowage bin and a beautiful multi-part cupola.

Because it is a 'Smart Kit', the tools have all of their clasps molded in plastic but the definition is very good. The instructions are a little busy but there is nothing there to catch you out. If you like Panzer Grey then this kit is for you, as all three marking options are for vehicles from 1941 are thus are monotone grey. The Magic Tracks of 6773 & 6765 have been replaced with DS Tracks which on my kit were not mangled and appeared to have less flash than usual.

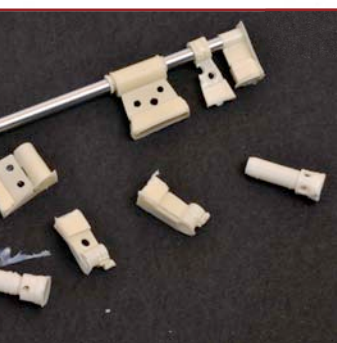
The kit doesn't give us any surprises, but it offers we Panzer III fans another Tauchpanzer version. My only negative comment is that Dragon need to consider giving us Magic Tracks as an option in the box, especially as the parts already exist.

As most of it is familiar there should be no building hassles, so it gets a recommended 'thumbs up' and an 8.5/10 from me.

Thanks to The Hobby Company Limited for the sample [www.hobbyco.net](http://www.hobbyco.net)

Graham Tetley





## LEOPARD WORKSHOP

1:35

LW017M, LEOPARD 2A4 BARREL

LW019E, LEOPARD 1 EUROPEAN L7 BARREL

LW019N, LEOPARD 1 NAKED L7 BARREL

Modern German subjects, especially the Leopard Family, have always been quite popular, and here we have three barrel sets from the Leopard Workshop that I'm sure people will be keen to add to any Leopard builds they have planned for the future.

Each of these 1:35 scale sets comes in the form of resin, with additional metal parts for two of them. The resin is cast to a high standard, with minimal cleanup required. Assembly is simple and each set has instructions and reference photos, very handy. This all comes packed in a clear plastic bag with a brand name header card.

I will now describe each set in a little more detail so you know what you get. The first, a Leopard 2A4 barrel, comes in seven resin parts, being two barrel ends, early and current, a barrel base for use with Meng kit, the barrel itself and then a choice of three different fume extractors being smooth finish, fine fibreglass texture and lastly, rough fibreglass texture. The reference photos for this are very good also giving the different variants of barrel ends and fume extractors, all in colour, also helpful for when you paint it up.

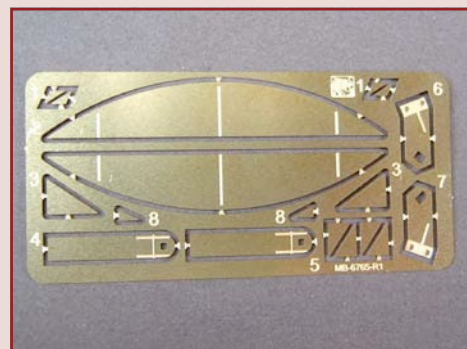
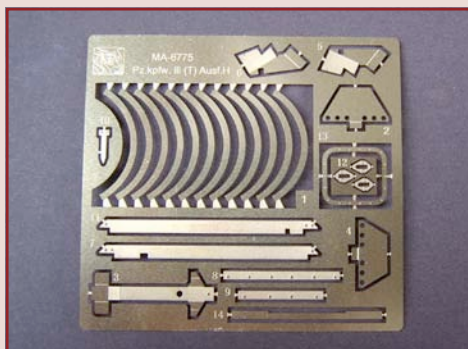
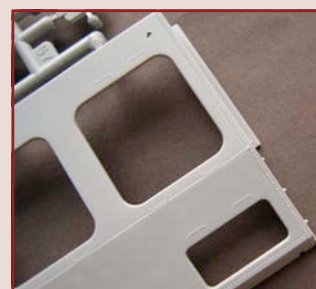
Second is the European L7 Barrel, which may be used on any Italeri, Revell, Meng, or Takom Leopard 1. There are nine resin parts and a metal barrel. This set can be used on Leopard 1 up to the 1/A5 variant depending on the barrel ends and counterweight used. Being that it suits many variants and brand names, this is a great add on.

Lastly is the naked variant of the L7 barrel, which consists of four parts in total, three in resin and the metal barrel itself. This also fits the Italeri, Revell, Meng and Takom kits, and is pretty much the same as the European only without all the thermal sleeves and only has the counter weight, and no collimator. This barrel will fit vehicles such as the M60 and Centurion tanks as well.

These are great additions for your Leopard kit, whichever variant you choose, and I recommend these indeed.

Recommended.

Thanks to Leopard Workshop for the sample <http://leopardclub.ca/workshop/>  
**Andrew Judson**





## THAT INSPIRATION THINGY

**S**o where does one get this mystical inspiration from?

Building models can be, on occasion, very frustrating. I mean really, with all the 1:48 kits on offer now we are really spoilt for choice.

Tamiya now has 86 1:48 scale kits in their catalogue and the aftermarket crowd has many more, so why is it so hard to get inspired to build? I believe it may be down to time - the time to research, the time to build and the time to finish. I'm a slow builder. It can take me up to six months to complete any one project. I could be kind and say "Well Lukie boy, you cover all the bases with your models", but in reality that's complete and utter crap! The real "clanger" is that I get bored very easily, so keeping that so-called inspiration going is difficult.

On my current build I was inspired to build the model by some very old artwork on the first release of the Tamiya 1:35 scale Schwimmwagen. And I tell ya, that was over 30 years ago! That's right; my current build has been simmering away in my pea-like brain for three decades!

I often find inspiration that way. I find that I'm building models now that I always wanted to

build but for some reason or another I never did. Okay, you're saying, what about the here and now? To be honest I don't often get inspired by other people's work. Sure, I can admire them for fleeting seconds (remember, I have a pea brain) but they don't often translate into finished models. When I was younger, the reverse was the case.

Good box art inspires me, parts of dioramas inspire me, but I want to add my own style to the piece I produce. By the same token I'm not a big fan of merely coping someone's else's style. I recently attended a model show and was somewhat dismayed to find most of the models in competition were slavish copies of models that I had seen in magazines or the web. There's nothing wrong with this approach but for heaven's sake, I thought to myself, take some chances guys, inspire



me, and show me something different.

Maybe it's a product of age. Anyway, back to the bench and see if I can locate that lost inspiration piece that I seem to have dropped on the floor...

**Until Next Time**  
**Luke Pitt**



### DUST STUDIO RED FURY KIT NO. D48047

"Dust" is a series of graphic novels created by Paolo Parente that creates an alternate universe where Germany, aided by technology recovered from a crashed alien spaceship in Antarctica, is able to end the Second World War in a stalemate that creates three major powers: The Axis Powers, the Anglo-American Allies, and the Sino-Soviet Union.

Among other things, the alien technology leads to the development of walking tanks that combine recognizable elements from real World War II vehicles.

This 1:48 scale mixed-media kit depicts what I would describe as a bit of a cross breed, combining the fully tracked German RSO chassis with a Russian gun and the front section from what looks like a Russian tractor. The model is actually designed to be used as a wargaming miniature with the Dust Tactics game, and includes a gaming base and data card for the game. The instruction sheet is a simple four-page colour affair, with assembly depicted in three steps. Anybody who has built a Warhammer kit will recognize the style.

I was first attracted to the kit as it offered what seemed to be a perfect base for a German RSO, while the detail in plastic is very good and the track sag almost perfect, although I think it may be a little oversized to be a true 1:48 scale model of this particular vehicle.

Three very well done resin figures are included and are outfitted in late war Soviet metal protective armour. You know, we modellers sometimes get a little serious about the hobby and this kit adds lashings of fun as you can basically do whatever you want with it.

Highly Recommended.

Dust Models are available in specialist stores and online from [www.dust-models.com](http://www.dust-models.com)

**Luke Pitt**



### RED ZEBRA ONIRIA MINIATURES "THE DEAL" WHITE METAL FIGURES

Red Zebra is now importing other brand brands to strengthen their 1:48 scale lineup. Anyone familiar with war movies will no doubt be aware of a film made in 1970 called Kelly's Heroes. I won't go into the details here, but suffice to say it has become something of a cult classic.

The four figures with this release are based on the main characters in the film. I'll say this upfront - I'm not a huge fan of white metal figures as they don't offer easy conversion possibilities due to the medium they are cast in, but these are very well done. The facial details and fabric creases are rendered to a high standard and the poses could really be used anywhere.

With slight modification the "Oddball" figure could be converted to an Arab tanker and used in a modern setting.

The figures are really quite good and well worth the asking price. Recommended.

Thanks to Red Zebra Models for the sample [www.redzebramodels.co.uk](http://www.redzebramodels.co.uk)

**Luke Pitt**





# THE GREAT HOBBY SHOP CAMPAIGN

This month we swing back to the Old Dart and Steven Stott describes his favourite hobby shop:

*"Hi Luke, I thought I'd write in and tell you about my favourite model shop. It's called F&S Scale Models, and it's in Tameside in Manchester England on the A635 near the Snipe retail park.*

*The owners always greet you with a smile, the shop is stuffed floor to ceiling with models, trains and bits 'n bobs. If it's not in the shop they will order it for you.*

*The good thing about them is, they're always open for a chat on modelling. They've helped me out on many occasions over the years. I think more people should know about them, as they have over 7,500 items on their website [www.fandsscalemodels.co.uk](http://www.fandsscalemodels.co.uk)*

*Regards Steve."*



## TAMIYA

1:48 SCALE

GERMAN HORCH TYPE 1A

KIT NO. 32586

The German Horch 1a was a four wheel drive heavy passenger vehicle used from 1937 until the end of World War Two. The vehicle seems to be a mainstay with Tamiya as they have had a 1:35 scale example available in various forms for as long as I can remember. I've always liked the lines of this vehicle and welcomed the news of its release.

The kit has five dark grey sprues with a surprisingly small parts count. The chassis for example consist of just 13 pieces. As you would expect from Tamiya the quality of the moulding is outstanding with no pins mark or flash visible after assembly. Surface detail is very well done with subtle weld lines and rivets on the coach work being the stand out there. The kit allows for the front driver and passenger doors to be positioned in the open position but not the rear passenger doors. The front radiator grill bars are moulded solid on the radiator housing, which is generally standard practice. The detail here is acceptable, but I was expecting a little more as this is a prominent "see through" feature on the real vehicle. The more detail-obsessed amongst us will be hoping an aftermarket company will come to our rescue with a photo etch grill (Editor's Note – Hauler almost certainly will address this).

The wheels have the distinctive half round cut-out on the hub moulded in recess but as this is again a prominent feature on the real vehicle you may want to open these up for that see through effect. The interior is fairly basic, as is the real vehicle, with the bench seats being made up from three pieces per seat. The support frames are a little thick but within acceptable limits. There is only one foul weather option and that is folded, although I would have liked to have had the option of both the erected and folded options.

All that being said, this is probably the best plastic folded cover I have ever seen. It comes in four pieces and has some outstanding folds moulded in. The only down side with this assembly are the support bars are a little thick and will need to be cut and thinned for a better appearance. When I looked at the preview pictures of this kit on the web I thought the figures may be entirely new. The driver and front passenger are but the four rear passengers are taken from an older release and are a little smaller in stature, and bulk. These aren't bad with the new front figures having some very petite features.

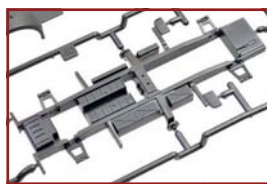
This is a typical Tamiya 1:48 kit, which means it's a good study in what I would describe as "detailed simplicity". The kit is good enough for 90% of builders straight from the box but also offers the more detail oriented amongst us a marvellous canvas for super detailing.

Highly Recommended.

Thanks to Tamiya for the sample

[www.tamiya.com](http://www.tamiya.com)

Luke Pitt





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(*The Hobby Company in UK*)

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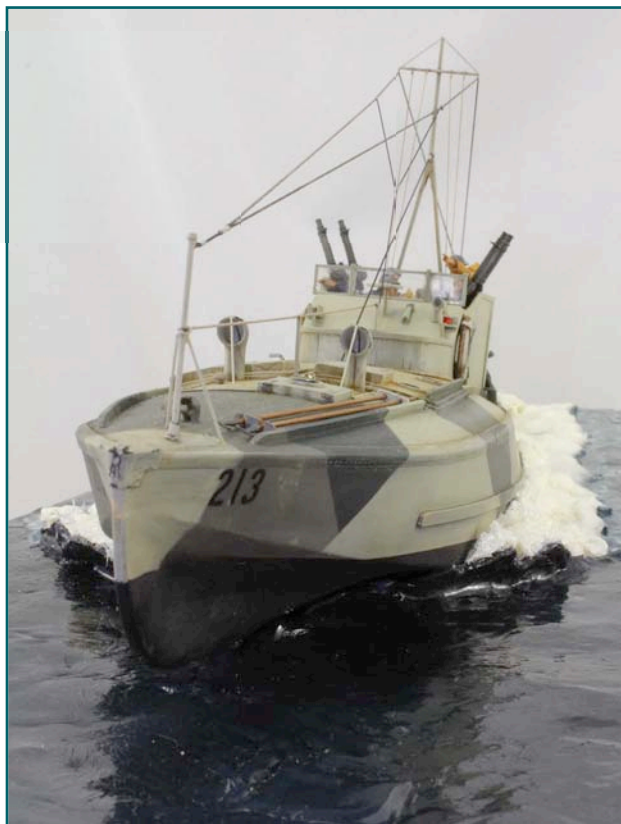
# Next Issue

On sale 4th  
February, 2016



## EASY EIGHT

Brett Green builds the brand new 1:35 scale Tamiya M4A3E8, and Bruce Culver offers historical insights and 35 great reference photos in a new Think Tank article.



## THORNYCROFT 55ft

Brent Simpson's 1:35 scale Coastal Patrol Boat from YS Masterpieces.



## FATHER SON BUILD

John Bonnani picks up where his father left off with Tamiya's classic 1:35 scale KV-2.

### FOR YOUR SAFETY



Don't forget, when using solvents such as glues, paints, thinners and cleaning agents, always ventilate your work area thoroughly and wear a face mask.

When using power tools, side cutters or any tool that can suddenly break or create high-speed airborne particles, wear approved eye protectors with hard, clear lenses. Please always model in safety!



## BEUTEPANZER PART TWO

Radek Pituch builds a base and cavalry for his captured T-34.

# Model MILITARY INTERNATIONAL

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## ...and much more!

Due to many influencing factors, we cannot guarantee the appearance of the above projects, but we'll try our best!





# The Last Post...



One half of the rear fuselage, and the rudder.



The big wing halves.



Rib and stringer detail is moulded onto the inside of the fuselage halves.



Bulkheads and additional structural detail are offered as separate parts.



Elevators and flaps are large parts.



The elevators are provided as separate parts too.



Wing structural detail is very nicely presented.

## THE TAIL OF A HORSA

Ross Ferro takes a look at Bronco's abbreviated 1:35 scale Horsa glider rear section, which includes the tail unit, rear fuselage and wings.

**T**his recently released kit from Bronco follows hot on the heels of the release of the full kit of the recently reviewed Bronco Models Kit No. CB-35195 - Airspeed A.S.51 Horsa Glider and is intended for those who may wish to create a "smaller" diorama by using some of the basic parts from the full kit.

The kit contains 57 parts on 11 sprues with a small fret of photo-etch and the full decal sheet from the larger kit. The quality of moulding is typically Bronco with well thought out details and nicely rendered surface details. The kit's construction is set out over six key sections which can make a nice change from some of the kits these days with construction sequences starting to take on epic proportions and almost causing you to question your sanity in buying the kit in the first place.

Construction commences with the tail unit fuselage halves coming together as three separate pieces being left and right side incorporating the fuselage bottom and a separate piece for the fuselage roof.

The level of detail moulding provided captures that of the real glider with the appropriate stringers and bulkheads included all the way to the end of the tail section. This is great attention to detail even considering that this area will mostly be out of sight when it is closed up and will possibly appeal to those who may want to show the tail section a bit more banged up.

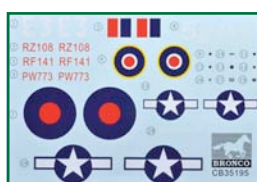
The next three construction sequences cover the elevators and the rudder and its attachment to the rear of the fuselage. The fixing points of these components to the rear fuselage appear to be very robust and should help to get everything

lined up as it should be. Details on all of the control surfaces is very subtle, reflecting the nature of construction of the originals, and you are given the option of posing the elevator in a neutral or positive negative pitch and the rudder in either a neutral left or right yaw. Once again a nice detail touch that will allow for differing diorama possibilities.

The last two construction sequences are dedicated to left and right outer wing sections and just as in the original glider these are detachable. Bronco provides some of the inner wing spar detail as well as poseable speed brakes, ailerons and flaps. Once again giving the modeller an opportunity to do something creative if they wish to display in some type of diorama setting.

This is yet another fine release from Bronco and provides a nice crossover kit for the aircraft/military modeller. Perhaps with a bit of luck and coercion, Bronco may produce both this kit and the full glider kit in 1:48 scale and open up even more possibilities for even more modellers. ■

Thanks to Bronco for the sample  
[www.cn-bronco.com](http://www.cn-bronco.com)



The decals are the same as those provided in the full Horsa kit.



The kit photo-etched fret.





Export version includes  
Item 35339 WWI British  
Infantry Set!



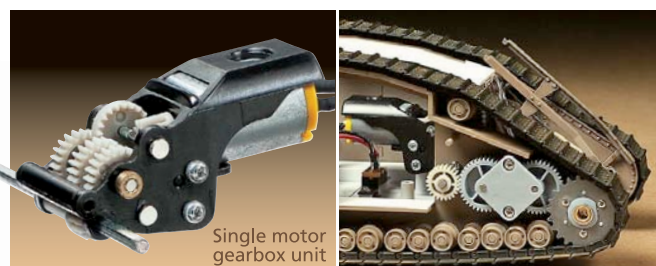
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# Changing the Face of Warfare

1/35 Motorized Tank Series WWI British Tank Mk.IV Male (Item 30057)

100 years on from the outbreak of the Great War, Tamiya releases its maiden WWI tank model

The Mk.IV, the world's first mass-produced tank, makes a much-anticipated appearance in 1/35 scale and becomes Tamiya's first WWI tank model. Extensive study of a surviving example at the Tank Museum in Bovington, U.K. allowed Tamiya designers to unerringly capture the rhomboid form of the Mk.IV, highlighted by the model's depiction of the riveted armor panels. A pre-assembled single motor gearbox also lets you recreate the forward motion of the real tank. Take this opportunity to examine the roots of the modern day tank with this masterful model of the Mk.IV, which proved the viability of the tank as a weapon in its deployment at the Battle of Cambrai in 1917.

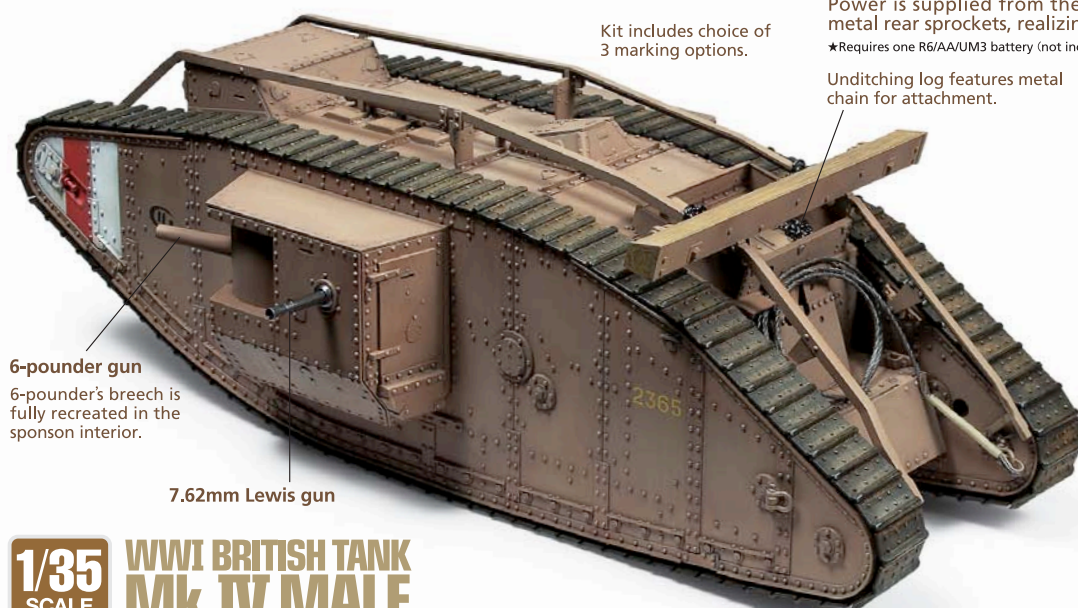


Single motor  
gearbox unit

Power is supplied from the gearbox via multiple gears to the durable metal rear sprockets, realizing powerful motion.

★Requires one R6/AA/UM3 battery (not included).

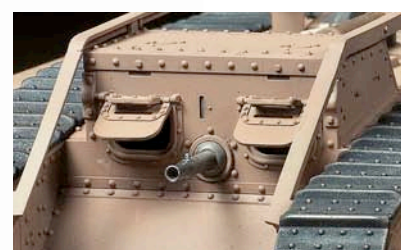
Unditching log features metal  
chain for attachment.



6-pounder gun  
6-pounder's breech is  
fully recreated in the  
ponson interior.

7.62mm Lewis gun

Kit includes choice of  
3 marking options.



Select open or closed visor flaps and upper  
hatch. Lewis machine gun parts are movable.

Moving link-type tracks  
encircle the hull.

**1/35 SCALE** **WWI BRITISH TANK**  
**Mk.IV MALE**

Length: 230mm

Also on sale  
individually

WWI British  
Infantry Set (35339)



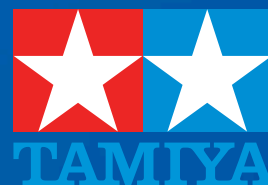
《About the Mk.IV》A century ago, the world was about to be thrust into the grip of a war which would see much of Western Europe reduced to a massive battlefield criss-crossed by a seemingly unending network of trenches. The original British Mk.I tank was developed to break the deadlock, the name 'tank' originally used to disguise the true purpose of the vehicle from enemy intelligence, passing it off as a simple water tank. It stuck, however, and continues to be used even in the present day. The Mk.IV was an improved variant of the original design,

and with over 1,000 units produced was the first major production variant of a rhomboid tank. The Male variant was developed to smash through enemy lines and in addition to machine guns it utilized large 6-pounder guns, in contrast to the separate Female variant equipped with only machine guns for armament. The Mk.IV saw a variety of action, including a mass deployment of around 400 at the Battle of Cambrai in November 1917, additionally prevailing in the world's first tank on tank battle with the German A7V in April 1918.



**1/35**  
SCALE

**U.S. TANK CREW SET**  
(EUROPEAN THEATER)



★Tank model sold separately.

# Getting Things Ready

**1/35 Military Miniature Series U.S. Tank Crew Set (European Theater)** (Item 35347)

From the Battle of the Bulge to the crossing of the Rhine, U.S. tank crews had a vital role to play as WWII wound to a close. Now, Tamiya has used the latest molding technology to create this incredibly realistic 1/35 scale 6-figure set which portrays one such crew in relaxed mood, working in and around their vehicle. It features commander, driver, gunner figures and more, in typical WWII European Theater uniform. Why not combine this versatile set with one of the U.S. tank models from our famed 1/35 Military Miniature Series line, such as the new M4A3E8 Easy Eight European Theater?

★Highly detailed set contains 4 full-body & 2 torso tank crew figures plus a range of accessories. ★Clear parts are included to create 3 types of goggles (2 of each). ★Parts to recreate M3A1 submachine gun and other accessories are also included, as are decals to depict unit and rank insignia, plus ammo case markings.



**Also on sale!**

**1/35 Military Miniature Series**  
**U.S. Medium Tank M4A3E8 Sherman "Easy Eight"**  
European Theater (Item 35346)

## Selected 1/35 scale U.S. subjects available from Tamiya

Tamiya offers any number of candidates to partner this figure set, including a large variety of different M4 Sherman variants, in addition to the 90mm gun-toting M26 Pershing and a whole host of other vehicles!



**U.S. Medium Tank M4 Sherman (Early Production)**  
(Item 35190)



**U.S. Medium Tank M4A3 Sherman 105mm**  
**Howitzer (Assault Support)** (Item 35251)



**U.S. Medium Tank M26 Pershing (T26E3)**  
(Item 35254)